WIN a fantastic Panasonic printer and pick up the latest epic ACU disc/tape offers inside this issue!

AMSTRAD COMPUTER USER

ACU

FEBRUARY 1992

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PRINT POWER!

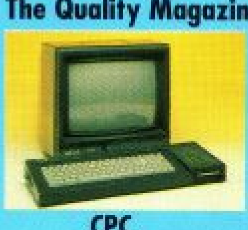
An incredible Panasonic KX-P1170 must be won inside as ACU reviews the latest 9-pin offering.

ALIEN ASSAULT

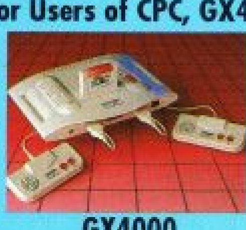
The games scene turns full circle as ACU takes in Domark's epic Super Space Invaders.

OFFICIAL THE MAGAZINE FOR THE AMSTRAD 464 · 6128 & GX4000 CONSOLE

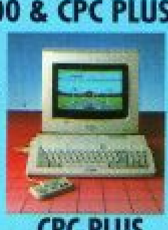
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CPC



GX4000



CPC PLUS

M.C.M QUALITY EDITORIAL

02

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Look out - he's back!

PAPERBOY 2

No window is safe. No fence is too high. The paperboy is determined to deliver the paper to his subscribers any way he can. Tossing papers left and right, riding in three directions, jumping anything, this free-wheeling carrier visits more neighbourhoods and houses, faces more targets and obstacles, in more vivid colours than ever before.

Plus, rad stunt riding and BMX tracks in bonus rounds. Choose to ride as either Paperboy or Papergirl too!















MINDSCAPE

For your local dealer, contact **Mindscape International Ltd,** The Coach House, Hooklands Estate, Scaynes Hill, West Sussex RH17 7NG. Tel: 0444 831 761

BrunWord

ROM Module £125

The BrunWord ROM Module is a compact unit which plugs directly onto the expansion socket of the CPC6128 or 6128 Plus. It overcomes the memory limitations of the CPC computer by incorporating the entire BrunWord Elite system into one very high capacity ROM (256K bytes). The module measures three inches wide, half an inch thick and extends just two and a half inches behind the computer.

On the ROM we have BrunWord Elite, Headline, 10 Headline fonts (including 'Chelmer' and 'Clacton'), 8 fonts for downloading to a 24 pin printer, BrunSpell, 30,000 word dictionary and Info-Script. Second disc drives owners can have KDS ROMDOS added (not 6128 plus) for £15 extra, and remember that no ROM box is needed.

Great Power

Plug on the module, switch ON the computer, type |BW and the whole BrunWord Elite system is in the computer ready for immediate use. You can type into the word processor, check the spelling, print it out, use the database to print labels or search for and transfer data to the word processor, print using headline fonts and 24 pin fonts, all without a single disc operation, except maybe to load data into Info-script. Any BrunWord Elite facility can be used without upsetting other data. You can even view screen dumps stored on disc, or format a 3 inch or 3.5 inch disc, without disturbing the text in BrunWord or the data in Info-Script.

Printing Pictures

The BrunWord ROM module has a host of new features including five high quality, high speed screen dump routines for 9 pin and 24 pin printers. These are special routines using the BrunWord Elite 8 bit printer status port and they print incredibly fast compared to desk top publishers. This entire page *including* the drawing, the large 'BrunWord', the address, credit card symbols and Teddy, was printed using the BrunWord ROM module and a wide carriage 24 pin printer *in one printing operation.*

Relative Reverse

For printers with reverse (Amstrad DMP2160, Star LC10 etc), there are now three reference points. The top of the page, the current print head position and any point previously defined within the text. The print head can be moved to a relative position above or below any of these references. This refinement coupled, with the new ability to control the box reverse, make complex layouts much easier to design and give faster, more efficient printouts.

Small and Light

The BrunWord ROM Module has been made as small and light as possible. When mounted directly onto the computer it is very very reliable. You are likely to damage the keyboard if you jolt it hard enough to give problems. (Other ROM systems use an unwieldy ROM box which can 'crash' with even the slightest knock).

Very Serious

The BrunWord ROM Module is perfect for the basic machine, you need no other add ons. However, anyone who has two disc drives knows the frustration of inserting a disc, asking to load a file and being told that the other drive has no disc in it. You simply forgot to inform the computer to change over drives. You know there's no disc in the other drive, the computer now knows, so what's the problem? The software doesn't test *both* drives!!! That's now a thing of the past. The BrunWord ROM Module will load from whichever drive has the disc in it. It's simple and it's brilliant, and if your second drive is a 3.5 inch, you can use the fast file system which loads a 64K file into Info-Script in 7 seconds or (with extra memory) a 256K file in 16 seconds.

Quote

"It's totally brilliant..... carries on the extreme user friendliness of Brunning products to a very high standard.... I have one of these little gems plugged into the back of my CPC right now. As you can imagine, anything that passes through the ACU office can expect to come in for a hard time and, I can safely say that to date, the BrunWord ROM has performed in an exemplary fashion on all fronts."
Chris Knight (ACU Editor) - ACU August 1991.

BrunWord 6128 £30

Complete word processing package (disc) with word processor, spelling checker and card filing programme. BrunWord 6128 out performs all other word processors for the CPC6128. It's high speed screen routine, gives it a very fast response and the editor features are logically arranged to be easy to learn. The spelling checker, with its dictionary, load into memory at the same time as the word processor, making access very convenient and exceptionally fast. It is supplied with a 40 page manual and a tutor file.

Info-Script £50

Complete data processing package (disc), including all the features of BrunWord 6128 and BrunSpell. The word processor and database can be resident together giving the speed and convenience of access with no disc delays.

9 Pin Elite £55

The Elite system for 9 pin printers (on disc) consists of BrunWord Elite, BrunSpell, Headline, 8 bit printer status port and 7 'type setting' fonts (fonts are 24 pin in size but for 9 pin printers). Total price £55 inclusive.

9 Pin Elite+Info £92

The Elite system (on disc) as above but including Info-Script and a backup disc. Total price £92 inclusive.

24 Pin Elite+Info £90

BrunWord Elite (on disc), BrunSpell, Info-Script, back up disc, 8 bit status port and 7 'type setting' fonts for downloading to a 24 pin printer. Total price £90 inclusive.

References

ACU	SEP	1990	Page 58/59	- Encryption.
ACU	OCT	1990	Page 56/57	- Headline.
ACU	DEC	1990	Page 24/25	- Info-Script.
AA	FEB	1991	Page 18	- BrunWord 6128
ACU	MAY	1991	Page 42/43	- BrunWord Elite.
ACU	JUN	1991	Page 60/61	- Elite Font Editor.
ACU	AUG	1991	Page 20/21	- BrunWord ROM Module.



'William Taylor'

This delightful line drawing by Chris Rothero is one of the illustrations in 'Strawberry Fair', a book of traditional songs and easy piano music, published by A & C Black Ltd. It was Dart Scanned into four 'screens' by agreement.

Send cheque/PO/Access number/Visa number to:-

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Telephone (0255) 862308

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Elite Font Editor with 'Chelmer' & 'Clacton'. .	£25.00

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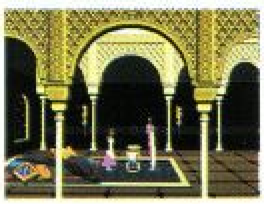
We gave the PC5286(TM) a massive 1 Mb RAM, 40 Mb hard drive and 1.44 Mb 3.5″ floppy disc drive.



LINKS



F-15 STRIKE EAGLE II



PRINCE OF PERSIA

And when it comes to using all that storage capacity it has a fast 80286 chip running at 16 Mhz so you'll be able to get through the business of the day with enough time left to play around.

THE COMPLETE SYSTEM

If golf isn't your game the Amstrad PC5286(TM) games pack comes with two other great games. Together with fully featured keyboard, mouse, DOS 3.3 with user-friendly graphical interface and a joystick.

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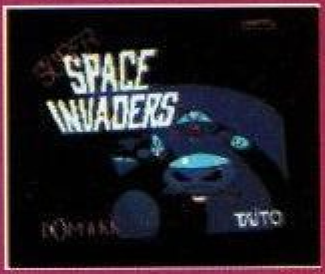
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REGULARS



FEATURES

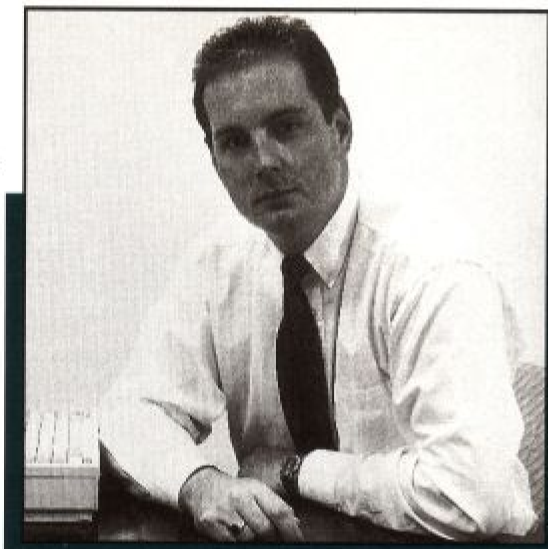
EARLY LEARNING

Sheffield based educationalists at Triple R have come up with an excellent idea to help youngsters get to grips with keyboard skills, in the form of unique keyboard overlays.

Simple to fit, these lightweight overlays are designed to convert keyboards to lower case and avoid further confusion by giving the option of QWERTY or alphabetic layout. There is even one showing coins to help children get to grips with money.

These excellent overlays come free of charge with every purchase of the new, innovative range of educational programs available from Triple R.

Look out in future issues of ACU for a full run down on these excellent products and make sure you grab a copy when they hit the streets in the very near future. Your kids will love them.



MIRROR, MIRROR...

As the race for dominance in the rapidly expanding v.32 modem market hots up, Miracom claims that it is taken the lead after breaking the £600 price barrier with its entry level product, the Courier v.32.

According to Clive Hudson, Sales and Marketing director at Miracom, v.32 products account for some 50% of sales since the Courier price drop last year, with predicted figures of up to 70% by April 1992.

Commenting on the market, Clive said: "The difference between Miracom and other modem manufacturers is that we are not just paying lip service to v.32, but basing our whole strategy on it, with a product to address all of the market segments."

With the ability to save money and transfer files up to seven times faster than quad equivalents, it has to be good news that the v.32 standards are coming down to affordable prices. Mr Hudson certainly looks overjoyed!

If you want to know more about the Miracom range of modems and how a modem can help you out, try ringing Miracom on 0753 811180 for details.

SCULL NEWS

Two nuggets of information from Scull Land this month, one excellent and the other, perhaps, not quite so excellent, but read on and decide for yourself.

Due to ever-increasing photocopying costs, CPC Domain fanzine is, from now on, to be produced on disc only. The new Disc-zine will contain everything in the printed CPC Domain only more of it, so we are told.

In addition, each issue will come with the latest PD software free as a sort of cover disk. The first disc issue should be out already, featuring *Locomotive Basic Compiler* as the cover PD, as a cost of £1.25 plus disc and SAE. Why not give it a whirl.

The other piece of news comes as a result of Alan Scully's devotion to Domain and means that, from now on, Scull Software the Library is only open to subscribers of CPC Domain. A bit of a shame, that, especially as the price for a disc full of PD has just dropped to just 75p.

If you want to know more about CPC Domain, or about the library, then send an SAE to Alan Scully, 119 Laurel Drive, East Kilbride, Glasgow G75 9JG.

CLICKETY CLICK

It looks like magazines aren't good enough for some people anymore! What else then, videos?

Yep! That's exactly right, following the news of an exciting new computer game release from Catalyst called *Click*.

Priced at £4.99, Click is the first video magazine to be sold in the same way as print magazines and features up to the minute games reviews that you can see and hear as you "read".

The bad news for us Arnold fans, however, is that they don't seem to be covering CPC games at the moment. However, we at ACU will certainly be talking to them on that point and, if you get a copy, why not talk to the publishers and tell them what you think.

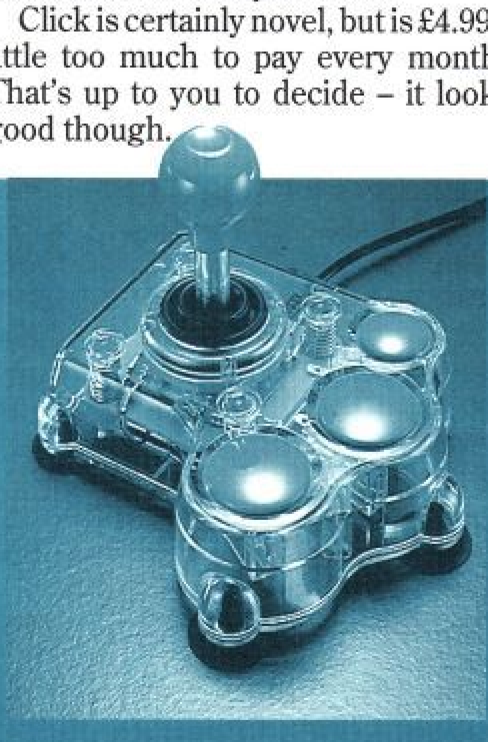
Click is certainly novel, but is £4.99 a little too much to pay every month? That's up to you to decide – it looks good though.

MICRONET DOWN

Following the sad demise of Micronet, avid users should be gratified to hear that London based On-Line is offering ex-Micronet users free membership and £5 of free On-Line time to what they claim is the UK's leading service for multi-player games.

Running *Air-Warrior* and *Federation II* as two of its most popular offerings, all ex-Micronetters need to do is send in a copy of any Micronet bill in 1991 to be registered for more games fun.

Anybody who wants to take up the On-Line offer should contact Clem on 081 558 6114 now! You know it makes sense.



MEGA STAR

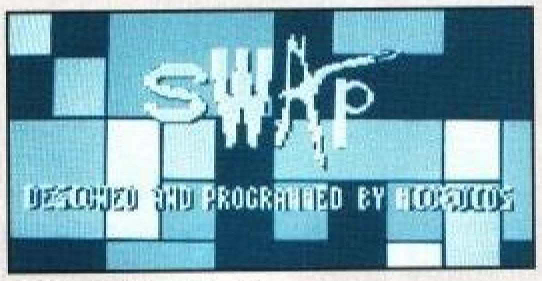
Nude joysticks have taken a step further with the release of Spectravideo's latest blaster, the Mega Star.

Designed as a sort of big brother to the successful Top Star, this Quickjoy stick is claimed to be the closest yet to joysticks seen in the arcades.

Featuring seven heavy-duty microswitches, made by Quickjoy itself, the handling certainly feels like an arcade stick and, with the short, stubby stick and three chunky fire buttons, it looks the part as well.

The transparent exterior means that you can see all of the switches in action as you blast and, if you don't mind paying just that little bit extra, you should find yourself in possession of a fairly indestructible stick for enhanced playing power.

Keep your eyes peeled for when this one hits the shelves and see if the chunky playing style suits you. If it does, then buy it. At just £27.95, you'll be getting an awful lot of stick for your money.



BRAIN TEASERS

Here we are, folks, with the winning list from our Brain Teaser Quiz (ACU October 1991). This one certainly sorted out the men from the boys from the girls from the ladies from the... and so on and so on.

Anyway, without further ado, the answers to the three questions were as follows. The weight of the human brain varies with each candidate, obviously, but we accepted any answer around the 1380gms area. Question two was also a poser where a couple of alternatives applied, in particular the Cerebellum and the Pituitary Gland. As a result, any combination of the above was also acceptable.

Well, what do you expect, we told you it was a brain Teaser didn't we? The third, and quite straightforward, poser after that little lot, should have given you the answer of 729.

OK? Now you know all that, here goes with the winners' list, each of whom should soon be receiving a Rubik Puzzle and a copy of Swap to tease the old grey cells a little further.

C. Jenkins, Newtown, Powys: A. Baggott, Wellingborough, Northants: David Wiggins, Stratford, London: W. F. Lane, Newark, Notts and P. T. Ardon, Carlisle, Western Australia.

There you go folks, we hope you enjoyed taking part and wish you all luck in this month's fab competition on page 12. Get going.

HIGH SPEED PRINTING

If you like your print-outs done yesterday, then why not take the new Seikosha SP2400 out for a test spin. Specifically designed for home and office use, where speed is of the essence, this superb new 9-pin printer offers a top print speed of 300cps in super draft.

Other speed features include 240 cps in draft (12cpi) and 50 cps in Near Letter Quality (10cpi), not too bad for a printer that retails at under £200.

The SP2400 incorporates Epson FX and IBM Proprinter II emulations, ensuring compatibility with most software packages and offers both parallel and RS232C serial interfaces as standard.

With a print buffer of 21kB, five resident fonts and comprehensive paper handling features, all accessible through the easy, one-touch button panel, the SP2400 is certainly a lot of printer for your money.

Costing £199, exclusive of VAT, anybody wanting to know more about this little beast should ring 0753 685873 now.



NEW CHAIN

Get set for a new age in computer games shops as Game Vision prepares for the opening of two brand new stores in London.

The stores, in Ruislip and Muswell Hill, boast a specially designed area for customers to try out games of their choice, catering for up to eight players at a time, to help you make your ideal games choices.

Games Vision stores will also be the only computer games stores in the country to offer customers the incredible Virtual Reality experience. There are only 18 units currently around in Britain, so if you want to don the headgear and try it out for yourself, you know where to go.

For the ultimate in games playing offers, why not take a trip to the stores, if you live in the area. If you don't keep your fingers crossed that a new one opens near you soon.



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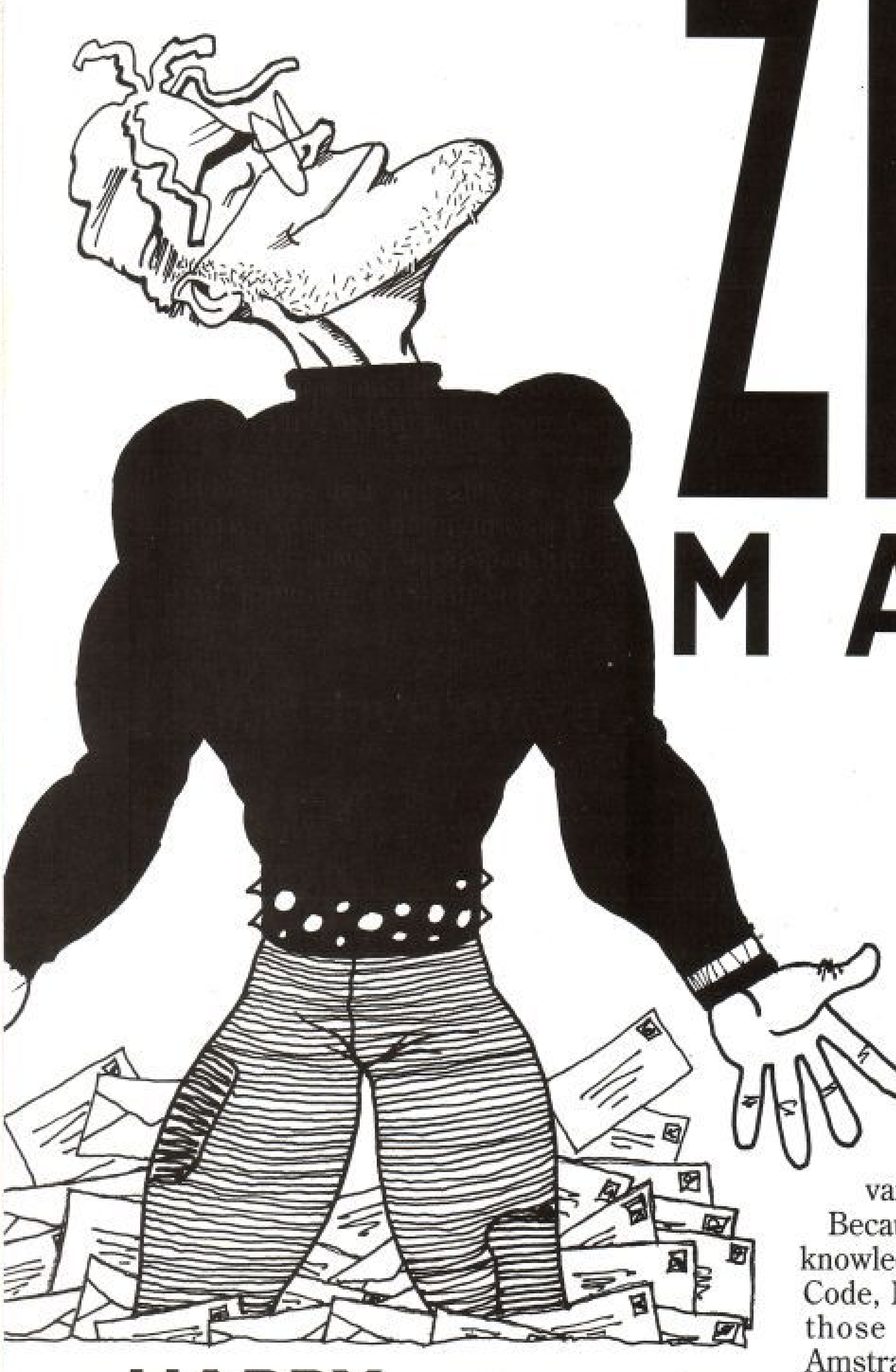
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ZIGGY'S MAILBOX



HAPPY HUNTING

Does anybody have the instructions for that old favourite *Hunter Killer?* I purchased my copy from a local department store and, upon arrival at home, found a drastic lack of instructions in the box.

If this is the norm, can somebody please tell me what the key assignments are. So far, I have worked out that the square brackets control the periscope direction. V alters the periscope position and C swaps the control room position.

Now for my second batch of troubles, one of which concerns those pesky little things called sprites.

I have to date two sprite packages. One being a professional package called *Supersprites,* and the other is *Axiom Sprites,* as provided by David Hall in the July issue of ACU.

Now, don't get me wrong, I think that they are both very well written and are fine for your average, state of the art, wallpaper programmer but, due to my ever increasing love of programming, I am in need of a slightly more advanced package.

Because of my rather rusty knowledge of Z80 Machine Code, I am appealing to all those brave hearted Amstrad keyboarders out there to produce for me a sprite package which does the following:

Use of graphics coordinates for positioning.

Ability to alternate between XOR and ordinary plotting.

More than four frames allowed for animation.

Creation tools such as local and global copy, fill etc.

A saving module that saves only what is needed, unlike many other packages which end up saving over five blocks on tape, just to show three wimpy little sprites.

The ability not to plot, eg: the leftover wastage around your favourite bullet sprite.

Anybody who has used the standard *Arc Paint* package will know of this system of Masks.

Okay, so it may seem like an impossible mission, but a reward will be posted for the slayer of my eternal problems (that's what you get for reading too many adventure mags).

Note: Keep up the good work.

Luke Drumm, c/o The Ballina Medical Centre, Ballina, New South Wales 2478, Australia.

Ziggy: Well, Luke's certainly set us a tall order there, by the looks of it. Regarding his first problem, has anybody out there got a copy of the instructions for Hunter Killer? If so, Luke would be more than grateful to hear from you.

Moving on to the beef of the question, Luke, you may find Glynne Davies' *Easydraw* proggie well worth a look at for starters. Featuring most of your specified requirements as built in options, I know it isn't a specific sprite creation package, but it should be capable of producing most of everything you should want.

Obviously, you have worked your way through the Sprites Alive Packages and commercial sprite making proggies, otherwise you wouldn't be writing. We at ACU will certainly spend some time considering your poser but, in the meantime, do any of you readers know of something that would fit Luke's bill? If so, let us know and you will most certainly reap the reward offered by Luke.

NONSENSE

I am an avid *ACU* fan but, in recent months, I could not find any new issues and the thought crossed my mind that the publishing of ACU had stopped.

As a result of that, I was reluctant to take out a new subscription, in case I

did not get it back. So, if I am wrong, please could you correct me.

Alistair Coyne, Monaghan, Ireland.

Ziggy: Here we go again. I know that a lot of people have been experiencing difficulty in getting hold of ACU recently but, let me assure you, we have absolutely no plans to cease publication.

The best thing for you to do is, either take out a subscription, or put in a regular order at your newsagents to be sure of getting hold of your fave mag.

We are still here and we ask you to let us know of any difficulties you may have in getting hold of the mag. When we can work out which areas are being blacked out, we can do something positive about it. So let us know, OK?

KWAH WHO?

Can anyone help me with *KWAH*, as I cannot get anywhere with it? All I have in my inventory is a press pass and a tape recorder. Someone help me . . . please!

Andrew Cartmell, Brisbane, Australia.

Ziggy: I don't think I remember too much about that little offering, unfortunately. However, as your request was so short and sweet, I'm sure one of our readers can help you out somehow. If anyone out there has a cheat sheet or some clues as to how to get on in Kwah, please let me know and I'll forward them on to our lost Aussie friend.

MORE RUMOURS

I have a few questions to ask. I am thinking of purchasing a CPC 464 Plus. I already have the original 464, but I heard a rumour that this is going to be phased out. Is this true?

I would also like to know how many ports there are for the paddle controllers and are normal joysticks compatible.

John McMillan, Glasgow

PS: Could you tell me where 464+ cassette games can be purchased, as I haven't yet seen them where I purchase my present games and software?

Ziggy: Many questions require many answers, so here goes. First of all, the 464 Plus was designed to upgrade the existing 464 so that, if the original 464 is getting a little scarce by now, it is not really very surprising.

Secondly, there are two paddle ports on the plus machine and, yes, you can use normal joysticks if you find the paddles too fiddly for your liking.

Thirdly, all of the games in production for the original 464 should work just as well on the Plus machine. The two are basically the same machine with a couple of minor alterations and the facility for playing cartridge based games on the Plus. As a result, just pick up your normal 464 cassettes if you do want to upgrade.

If you don't, and even if Amstrad has stepped down production on the original 464, you should still find plenty of games around for it.

There is still a mammoth user base of 464 owners, so weigh up the pros and cons of upgrading carefully before you decide. You could also try looking in the Bits section for secondhand machines, as you might even pick up a disc based machine on the cheap if you prefer.

WHEELY GOOD

I have been buying racing games for my Amstrad CPC but, when I play racing games in the arcade, they are much better. This is because they have steering wheels which I cannot find on computers. Maybe you could fit one onto the joystick port?

Please, please could you tell me if you can buy any steering wheels or if they are ever going to make any?

Stephen Richardson, Newcastle-upon-Tyne

Ziggy: Well, I must admit that actual steering wheels are a bit of a rarity on the home computer front, frustrating though it is.

However, there are a couple of yoke style joysticks on the market, designed in the main for flight simulator games, which may serve a purpose for your needs. Powerplay/Sonmax manufacture one and there are a couple of others on the market, such as the Zoomer, though you may find some of these out of your price range, as well as being somewhat of an overkill, due to their technical designs.

Why not ask at your computer shop to have a look at the yoke sticks on the market and see what you think? Alternatively, have a look at Spectravideo's pedal joystick, currently on the market. I know it isn't a wheel, but the pedals should give you a bit more of a feel for your fave games.

LISTING BLUES

I think your mag is great, as I get it every month. However, there is one thing about your mag that bugs me. Whenever I get a magazine, I type out the 10-liners but, 75% of them do not work.

I own a 464 and some of the commands I see do not work, such as Graphics Pen, Fill etc, which work on a 6128, but not on a 464.

In the December issue, Fern was the only demo that I could type out!

I hope that you will make a double of the 10-liner, a 464 version and a 664/6128 version, to keep us all happy. I find it very frustrating finding a big listing in the back of the mag with Fill commands! Thanks.

Chris Hine, Moonee, Coffs Harbour, NSW, Australia.

Ziggy: Sorry to hear of your problems, Chris. We at *ACU* do our best to ensure that as many as possible of our 10-liners work on all CPC machines but, when all is said and done, all of the proggies we use are sent in by you readers. We don't like to tamper with them too much, unless they don't work at all, of course, and though most proggies should work on all machines, why don't you 464 owners get together and start sending in more of your own proggies for publication? That way, you should find yourself well and truly catered for.

After all, the 10-liners and listings section are for you readers, so represent your own views by sending in your own proggies and we'll see that a balance is maintained throughout.

COMPETITION



Wow! Have we got a belter of a competition for you this month! What's on offer? One brand spanking new 9-pin Panasonic printer. The KX-P1170, as reviewed in this month's issue, to be exact.

To get your hands on this incredible prize, just answer the three simple questions below and get your answers in ASAP to make sure that you are in with a winning chance. PS: A quick glance at the review may help you out. Here goes:

1. What printer emulations does the KX-P1170 have?
2. What is the maximum print speed of the KX-P1170 in draft?
3. What level of graphics resolution does the KX-P1170 have?

ACU Power Print Compo,
Sunnyside Cottage, Carluddon, St Austell,
Cornwall. PL26 8TY.

The editor's decision is final.

O.J. SOFTWARE

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COMPILATIONS

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DREAM WARRIOR

BY DAVID HALL

Yep! Mr Hall is back and his first dynamic Machine Code offering is a Breakout Clone, featuring random ball bouncing and wall patterns, as well as scoring and sound effects.

Run it, get hold of your joystick and see how well you fare in this excellent proggie. Pressing the Space Bar will restart your game if you come unstuck.

```
10 h$="*  Dream  Warrior  *":g$="Points *":READ a$:l=30060:F [E1]
OR j=1 TO 92 STEP 2:POKE l,VAL("&"+MID$(a$,j,2)):l=l+1:NEXT: [E1]
l=9999:q=l:FOR k=1 TO 8:READ a$:FOR t=1 TO LEN(a$) STEP 2:l= [E1]
l+1:POKE l,VAL("&"+MID$(a$,t,2)):NEXT:NEXT:MODE 0:PAPER 0:CL [E1]
S:BORDER 0  [E1]
20 PLOT 62,44:FOR t=1 TO 2:DRAWR 0,308,8:DRAWR 520,0:DRAWR 0 [40]
,-308:DRAWR -520,0:MOVER -4,2:NEXT:LOCATE 3,24:PEN 6:PRINT g [40]
$;:PEN 12:LOCATE 1,2:PRINT h$:DATA 0100004600000f0600002000 [40]
04800000f060000010000000000f03000057414C4C2044455354524F594 [40]
5442021 [40]
30 a$="* GAME  OVER *":INK 0,0:INK 5,15:CALL q+1:PAPER 0:PEN [A7]
 7:LOCATE 4,15:PRINT a$:WHILE INKEY$<>" ":WEND:PLOT 66,350,0 [A7]
:FOR t=1 TO 152:DRAWR 508,0:MOVER -508,-2:NEXT:FOR k=1 TO 50 [A7]
8:NEXT:GOTO 30:DATA CDF127CD74273E02329C4A329D4A2164EE229065 [A7]
2114EE2230753E [A7]
40 DATA 0132327532337 5CD2E28CD2E28CD6627CD24283A9C4AF5CD6429 [6F]
F13D20F83A9D4AF5CD0629F13D20F83A384AFE03C83A4771FE2420D1CDA6 [6F]
2918AD3E1BCD1EBBC83E3ECD1EBB28F9C9DD21D084AF32384A32477132E8 [6F]
800E05CDCD2732E980214CE8CDC5270E08CDCD274F060BCD26BC10FB0D20 [6F]
F6CD26BC7EFE00 [6F]
50 DATA 20DACD29BCCDD8273AE980875F3E0993CDC527CDD8273AE8803C [7F]
FE1220BBC91717175F160019C9ED5F47AF3CB928FB10FAC9DD7500DD7401 [7F]
11DC290E0BCD6428DD6601DD6E00DD23DD23C9060721C05D36302310FB21 [7F]
180CCD75BB3E0ACD90BB060721C05D7ECD5ABB2310F9C921C55D7E3CFE3A [7F]
28037718DC3630 [7F]
60 DATA 2B18F20E2206C810FE0D20F9C93E4ACD1EBB201C3E4BCD1EBB28 [96]
202A9065110800197EFE0020142A906523229065180B2A90652B7EFE0020 [96]
0218F011342A2A90650E05E506081A77231310FAE1CD26BC0D20F0C92A30 [96]
75CD29BC06047EFE00200C2310F82A3075CD29BCC32129CD8A29DD21D084 [96]
3E2432409CDD66 [96]
70 DATA 01DD6E00060BCD26BC10FB2B2B060C7EFE0528102310F8DD23DD [EA]
233A409C3D20DAC3E128118C2ADD6601DD6E000E0BCD6428CD2428CD1328 [EA]
AFDD7701DD77002147713418 0C216C75CDAABC217675C3AABC3E0FF53286 [EA]
75328575218075CDAABC06FA0010FDF13D20EAC93A3275FE0228192A3075 [EA]
2B06067EFE0020 [EA]
80 DATA 27CD26BC10F62A30752B223075182B2A30751104001906067EFE [73]
00200BCD26BC10F62A30752318E23A3275EE033232750E03CDCD27329D4A [73]
189011642A3E043266280E06CD64283E08326628C93A3375FE02C275282A [73]
30750606CD26BC10FB06047EFE032809FE0020092310F4181732384AC93A [73]
3375EE03323375 [73]
90 DATA 0E04CDCD27329C4AC3E1282A3075CD26BCC32129118C2ACD5F28 [82]
2A3075118C2ACD5429AFCD96BB3E0D3DF5CD90BB210F03CD75BB218A751E [82]
107ECD5ABBCD2428231D20F5F1FE0020E0C9000000000000000010303030 [82]
30303000303030303030648830CFCFCFCFCFCE8830CFCFCFCFCFCE8830CF [82]
CFCFCFCFCE [82]
100 DATA 8830CFCFCFCFCFCE8830CFCFCFCFCFCE8844CCCCCCCCCCCC884 [65]
4CCCCCCCCCCC00000000000000000000050F0F0F0A00000F030F0F0F0F [65]
00000B0F0F0F0F0F00000F0F0F0F0F0F0000050F0F0F0F0A000000000000 [65]
00000000000000000050A00000F3C00000F3C000014280000000000000000 [65]
000 [65]
```

CENTRETEXT

BY PETER WILKINS

Here's a handy routine to allow you to write text to the centre of the screen. All you do is specify the starting point for your text, then write it out. Couldn't be simpler and it's sure to promote quite a few variations in the near future.

```
10 'TEXT CENTRE ROUTINE (C) PETER WILKINS 1991 [F1]
20 MODE 2 [EE]
30 LOCATE 1,20:PRINT"ENTER Y VALUE 1 TO 25" [85]
40 LOCATE 1,21:PRINT SPACE$(79):LOCATE 1,21:INPUT MY [BB]
50 LOCATE 1,22:PRINT"ENTER TEXT" [E3]
60 LOCATE 1,23:PRINT SPACE$(79):LOCATE 1,23:INPUT M$ [EB]
70 TAG [F6]
80 MOVE (80-LEN(M$))/2*7,415-(MY*16)   [88]
90 PRINT M$; [5D]
100 M$="":TAGOFF:GOTO 30 [6F]
```

MENDISP



BY PETER WILKINS

Something useful here, to help you remember the key points in your CPC's memory. Simply enter the area you wish to search, from 0 to 65535 and see what you can find. Along the way, you should find this little proggie in there somewhere. Happy hunting.

```
10 'MEMORY DISPLAY (C) PETER WILKINS 1991 [F1]
20 INPUT"START ADDRESS";S:IF S<0 OR S>65535 THEN GOTO 20 [EC]
30 INPUT"END ADDRESS";F:IF F<S OR F>65535 THEN GOTO 30 [CE]
40 INK 0,0:INK 1,15:BORDER 0:MODE 2:ADD=S [C6]
50 MEM=PEEK(ADD) [44]
60 IF MEM>31 AND MEM<129 THEN C$=CHR$(MEM) ELSE C$=" " [D9]
70 PRINT ADD;TAB(10);MEM;TAB(20);C$ [72]
80 ADD=ADD+1 [AC]
90 IF ADD=F+1 THEN STOP [E2]
100 GOTO 50 [A4]
```

BASIC+

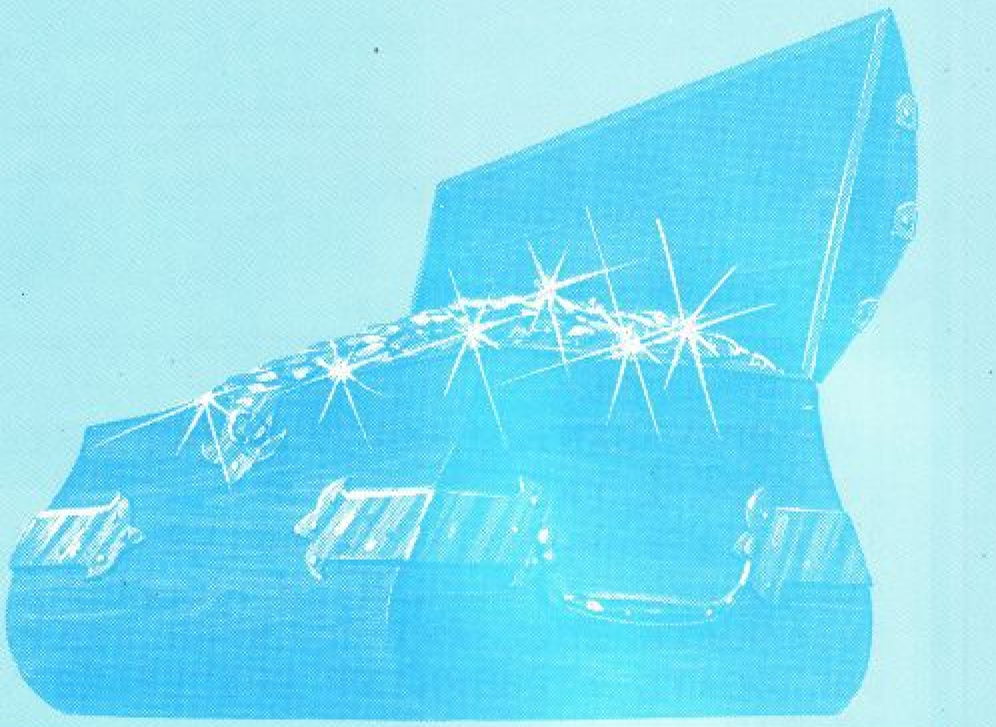
BY DAVID HALL

```
1 ' +++  BaSiC ExTrA  +++ [71]
2 ' +++ by David Hall +++ [72]
3 ' [73]
10 a=40000:MEMORY a-1:FOR t=a TO a+41 [1E]
20 READ c:POKE t,c:NEXT:CALL a:CLS [79]
30 PEN 3:PRINT "New commands -":PEN 2 [B2]
40 PRINT"¦INVERSE -Swaps INK + PAPER colours" [E8]
50 PRINT"¦BEEP -Beep sound!":PEN 1:NEW [33]
60 DATA 1,78,156,33,74,156,205,209,188 [D0]
70 DATA 201,0,0,0,0,86,156,195,98,156 [9D]
80 DATA 195,101,156,73,78,86,69,82,83 [96]
90 DATA 197,66,69,69,208,0,195,156,187 [F8]
100 DATA 62,7,195,90,187 [DD]
```

Basically, this little routine adds two new commands to the Basic list. :BEEP makes the computer beep sound, while :INVERSE swaps the pen and paper colours.

It may not sound much, but the second new RSX command should definitely prove useful.

URGE



BY DOUGAL KENNEDY

This is a superb pick-em-up game, which sees you controlling the blue cross with your joystick. The aim is to collect all of the gold coins on the screen without touching any of the red nasties. You also have to beat the clock, so move fast and look out for the big scoring blue crystals as well. Get going and good luck.

```
10 bm=900:li=3:hi=10000:h$="Amstrad":l=1:bo=900:g=10:nb=50:S [A2]
YMBOL 255,129,129,102,24,24,102,129,129:SYMBOL 254,60,66,165 [A2]
,129,129,165,66,60:SYMBOL 253,24,36,102,153,153,102,36,24:SY [A2]
MBOL 252,60,126,94,159,159,255:st$="   By Dougal Kennedy   " [A2]
20 q=1:BORDER 17:FOR i=40 TO 0 STEP -1:FOR j=0 TO 30:NEXT:OU [9E]
T &BC00,1:OUT &BD00,i:NEXT:PAPER 0:MODE 1:SYMBOL 251,16,40,6 [9E]
8,108,56,56,16,16:LOCATE 18,1:PEN 1:PRINT "URGE":LOCATE 28,2 [9E]
5:PEN 2:PRINT "TIME";bo:LOCATE 1,24:PRINT"SCORE";s;TAB(30);" [9E]
LEVEL";l [9E]
30 PRINT h$,hi:FOR i=1 TO g:LOCATE INT(RND*40)+1,INT(RND*22) [30]
+2:PRINT CHR$(254):NEXT:PEN 3:FOR i=1 TO nb:LOCATE INT(RND*4 [30]
0)+1,INT(RND*22)+2:PRINT CHR$(253):NEXT:PEN 1:LOCATE 20,12:P [30]
RINT CHR$(252)+" ":LOCATE INT(RND*4)+1,INT(RND*22)+2:PRINT C [30]
HR$(251) [30]
40 n=30:m=5:x=n:y=m:INK 0,0:INK 1,11:INK 2,24:INK 3,6:PEN 2: [64]
d=INT(RND*25):FOR i=1 TO 40:FOR j=0 TO 30:NEXT:OUT &BC00,1:O [64]
UT &BD00,i:NEXT:BORDER 0:IF d=1 THEN LOCATE INT(RND*39)+1,IN [64]
T(RND*22)+2:PRINT CHR$(186):BORDER 6,0:G=G+RND*5+5:INK 3,15  [64]
ELSE BORDER 0 [64]
50 LOCATE x,y:PEN 1:PRINT CHR$(255):PEN 3:LOCATE 32,25:PRINT [AA]
 bo:r=INKEY(72)+1+(INKEY(73)+1)*2+(INKEY(74)+1)*4+(INKEY(75) [AA]
+1)*8:IF r>0 THEN SOUND 1,239,5,15:SOUND 2,190,5,15:SOUND 4, [AA]
159,5,15:LOCATE 28,1:PRINT MID$(st$,q,7):q=q+1:IF q=LEN(st$) [AA]
-7 THEN q=1 [AA]
60 n=x:m=y:IF r=1 AND y>2 THEN y=y-1 ELSE IF r=2 AND y<23 TH [7D]
EN y=y+1 ELSE IF r=4 AND x>1 THEN x=x-1 ELSE IF r=8 AND x<40 [7D]
 THEN x=x+1 [7D]
70 LOCATE x,y:a=ASC(COPYCHR$(£0)):IF a=254 THEN s=s+100*1 EL [63]
SE IF a=253 THEN GOSUB 90 ELSE IF a=252 THEN nb=nb+5:bm=INT( [63]
bm-(bm/10)):l=l+1:bo=bm:GOTO 20 ELSE IF a=251 THEN bo=bo+200 [63]
:s=s+(1000*(1/4)) ELSE IF a=186 THEN s=s+10000:INK 1,26:INK  [63]
0,3:BORDER 3 [63]
80 bo=bo-2:IF bo<1 THEN li=0:GOSUB 90 ELSE PEN 2:LOCATE 6,24 [2C]
:PRINT s:PEN 3:LOCATE 17,24:PRINT li:PEN 1:LOCATE n,m:PRINT  [2C]
" ":LOCATE x,y:PRINT CHR$(255):GOTO 50 [2C]
90 li=li-1:IF li>0 THEN RETURN ELSE LOCATE n,m:PRINT " ":PEN [7A]
 2:LOCATE 15,12:PRINT CHR$(22)CHR$(1)"GAME OVER":IF s>hi THE [7A]
N 100 ELSE PEN 1:LOCATE 12,13:PRINT"ANY KEY TO START"CHR$(22 [7A]
)CHR$(0):CLEAR INPUT:CALL &BB18:nb=50:l=1:li=3:bm=900:bo=900 [7A]
:s=0:GOTO 20 [7A]
100 CLEAR INPUT:INK 3,15,6:BORDER 5:LOCATE 1,20:PRINT CHR$(2 [DF]
2)CHR$(0):INPUT "      You Got A New Hiscore       Please Ente [DF]
r Your Name (10 Letters max) ";h$:PRINT CHR$(22)CHR$(1):IF L [DF]
EN(h$)>10 THEN 100 ELSE hi=s:INK 3,6:BORDER 0:GOTO 90 [DF]
```



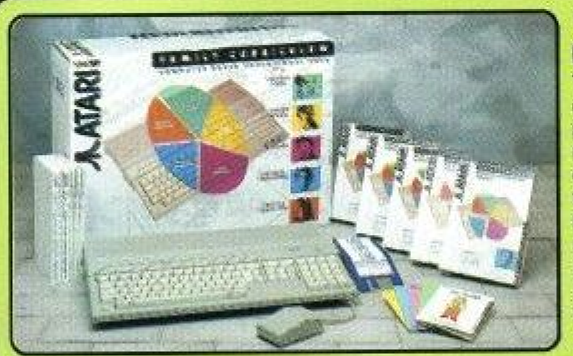
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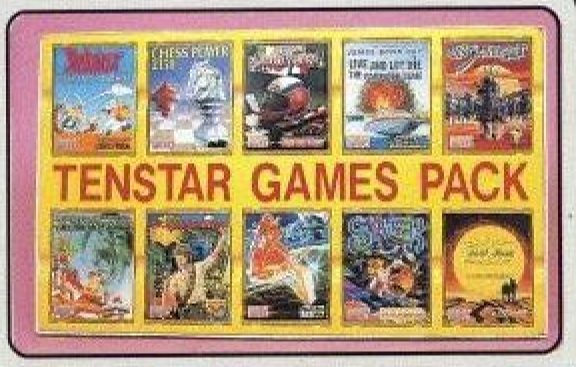
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THE TECHIE BIT

Here we are again, up to our necks in assemblers and all things technical. A slight departure this month from the usual batch of firmware routines, but more machine code madness next month.

Let there be Light

Jonathan Flowerdew has expressed an interest in building his own light-pen. Why would anyone want to write in the dark, I hear you cry, well actually a light-pen is a clever gadget that allows you to draw onto the screen. Yes I know your average felt tip pen can do this, but it isn't very electronic is it?! The general idea is that the computer works out which point on the screen you are holding the pen at, and then acts on it e.g. plotting a pixel or selecting a menu option. David Dimbleby also likes to use his to get retired generals to draw huge great red marks on a map of the Middle East. Anyway, Jonathan writes:

"I am currently thinking of investing in a Maplin light-pen kit. The only catch is from what memory address can I get the current scanning positions on the screen? Also, what does the 'L/PEN' input on the expansion port do? The Maplin book suggests using a joystick port, but if the 464 has a light-pen port would it be better to use this? Hope you can help me. Great mag! P.S. When do we get the machine code assembler as at present I don't have one!"

At the tip of a light-pen is a sensor which detects when the 'raster' passes underneath it. The 'raster' is the small spot of light which whizzes across your monitor/TV 50 times a second, building up the picture as it goes. When the light-pen 'sees' this spot, it sends a signal to the computer which instantly makes a note of the raster's position. This position measurement, which is really nothing more than the time since the raster was at the top-left of the screen, is stored in a special memory address.

The Maplin kit that you are interested in, and with which I am familiar, was designed with Atari/Commodore machines in mind. This is why it connects to their joystick port, because on these machines the L/PEN input signal is situated here. On Amstrad CPCs the L/PEN input can be found on the expansion port, specifically pin 47. Therefore, you would need to replace the light-pen's joystick connector with a 25x2 way edge connector and link the +5v, 0v and L/PEN signals to the correct pins. Having done this, the light-pen should perform just as well with a CPC as with any other machine. If you wish to have a 'select' button on your pen when you should use the joystick port - in a similar manner to a fire button.

The next stage is to locate the special memory address mentioned earlier and from this calculate the light-pen's X,Y screen coordinates.

```
10 MODE 1
20 GOSUB 2000
30 'LOOP
40 GOSUB 1000
50 LOCATE 1,1:? x,y;" "
60 GOTO 40
70 '
1000 'Get Light-pen Position
1010 OUT &1C00,16
1020 high=INP(&1F00)
1030 OUT &1C00,17
1040 low=INP(&1F00)
1050 pos=(high*256)+low-offset
1060 y=INT(pos/40)
1070 x=pos-(y*40)+1
1080 y=y+1
1090 RETURN
1990 '
2000 'Calibrate Light-pen
2010 PEN 1:LOCATE 20,10:?
CHR$(243)
2020 WHILE INKEY$=" ":WEND
2030 offset=12292
2035 x1=0:y1=0
2040 GOSUB 1000
2050 IF y>10 THEN y1=40
2060 IF y<10 THEN y1=-40
2070 IF x>20 THEN x1=1
2080 IF x>20 THEN x1=-1
2090 offset=offset+x1+y1
2100 IF x1=0 AND y1=0 THEN 2035
2110 RETURN
```

The above BASIC listing is a simple demonstration program that contains the two main subroutines you will need to include in your own programs. At the start of any programs you write, you should include a GOSUB 2000 as this routine calibrates the pen. Note that this routine only needs to be used



once. The second routine at 1000 should be used whenecer you need to calculate the pen's position. It will return two coordinate values in x (horizontal 1-40) and y (vertical 1-25).

Unfortunately the pen is only really accurate to one character position and cannot be used to select individual pixels, so if you intended to draw pictures with it then a mouse might be a better investment. Having said this, the light-pen is ideal for many other applications including selecting menus and should give you much enjoyment. Have fun! (In answer to your P.S., you've only got a few column inches to wait!)

Not wanting to stand between Jonathan and his assembler, I'll make this brief. All correspondence regarding the Techie Bit is extremely welcome and can be sent to the address at the front of the magazine. A couple of people have asked if problems/queries can be sent to this column, the answer is of course YES! Similarly, if you've got any handy hints'n'tips on m/c programming then I'd be delighted to hear from you. Bye!!

Hex Education – The Assembler

I-T'-S H-E-R-E!! Yes indeed, ACU's very own assembler has arrived at last. After months of slaving over a hot keyboard (well, warmish anyway), ACU can now give its readers an exclusive opportunity to obtain this little gem. No more grappling with cryptic text editors or becoming lost in strange development environments, now assembly language instructions can be freely mixed with BASIC statements. How is this possible I hear you cry, well take a look at the listing below:

```
10 ' Here is a short machine code program...
20 '[
30 'ORG &7000
40 'LD HL,message
50 'loop: LD a,(HL)
60 'CP 255
70 'RET Z
80 'CALL &BB5A
85 'INC HL
90 'JP loop
100 'message:
110 'DB 65,67,85,32,65,115,115,101
120 'DB 109,98,108,101,114,7,&FF
100 ']
110 '...and here is a short BASIC one.
120 MODE 2
130 FOR N=0 TO 100
140 DRAW INT(RND*640), INT (RND*400)
150 NEXT
```

Lines 30-120 use assembly instructions while lines 120-150 employ standard BASIC commands. Typing RUN will cause the BASIC program to be executed in the normal way. Once the new assembler is loaded, typing |ASM will turn all the assembly instructions into machine code. This can then be executed by CALL &7000.

Notice how lines of assembly language start with an apostrophe ('), thus making them invisible to the BASIC interpreter. The assembler, on the other hand, will only look at such lines and will ignore any BASIC statements that it might come across. In this way, two fundamentally different types of programs can be kept in memory and developed simultaneously.

Even if you have no desire to mix the two, ACU's new assembler still has a lot to offer - particularly for beginners. Taking the plunge into machine code programming can be a daunting experience, but your first tentative steps can now be made a lot less painful. What easier way to start off than by using the familiar BASIC editing functions, typing assembly instructions in a BASIC-style listings, and then being able to save/load/print/list them in the usual way.

It is for all these reasons that future 'Hex Education' columns will be designed specifically with this new assembler in mind. The listings given should still work on existing assemblers with only minor modifications, but why not save yourself the trouble and order your very own copy of the ACU assembler TODAY!

Once you've got your hands on a copy (an ORIGINAL copy that is!) using it is dead easy - insert the tape/disk and type RUN"ACUASM". ACUASM is a simple loader which executes the following commands: MEMORY &7FFF:LOAD"ASMCODE.BIN":CALL &8000

```
ACU Assembler v1.0
(c)1991 Simon Watson
Initialised...
```

You should be rewarded with the above message that indicates all is well and that the assembler is ready to strut its stuff. The assembler can now be accessed by using one of two commands, |ASM and |LABEL (the '|' symbol can be obtained by pressing SHIFT+@. |ASM is the command which initiates the assembly process, and has no parameters. Typing it in direct mode (no line number) might result in the following message:

```
Pass1...
Pass2...
No assembly required
```

The assembler scans your listing (source code) in two passes. On the first pass it simply constructs a list of all the labels you've defined, while on the second pass it actually generates the machine code (object code). In the above example after completing the second pass the message 'No assembly required' appears, indicating that the assembler could not find any lines to assemble. If you now type in the listing at the start of this section followed by |ASM, the final message displayed should be 'Assembly completed at line 120'. Try adding line...

```
125 'loop:
```

...followed by |ASM. Because this label was defined earlier on in the listing (line 50), an error will be generated on Pass 1 and the assembly process halted. Other errors may only be found on Pass 2 but the end result is still the same - assembly will not continue until the cause of the error is removed.

As previously mentioned, the assembler will only recognise lines starting with an apostrophe. In order to be a bit more flexible, a further requirement is that lines of assembler must be enclosed by [and] symbols at the start and end respectively. Lines outside these brackets will simply be ignored. In our example listing these symbols can be seen at lines 20 and 100, thus only lines 20-100 are vetted by the assembler. If line 100 was deleted then the assembler would look at line 110 and display an error. You may use as many [,] symbols as required, and may omit the] symbol. These brackets can be thought of as switches with [enabling the assembler and] disabling it.

Before the assembler can generate any object code it needs to be told where to place it. This is achieved by the use of the ORG statement. ORG &7000 would tell the assembler to start placing all subsequent machine code from &7000 onwards. The assembler must have encountered an ORG before your first mnemonic otherwise an error will be generated.

Here is a technical summary of the ACU Assembler v1.0:

Files needed: "ASMCODE.BIN" (plus optional "ACUASM." loader)
Start: &8000
Length: &1BB0
Embedded switches: [enables

assembler,] disables it
Directives supported: ORG, EQU, DEFB, DB, DEFW, DW, DEFS, DS (note that ORG and EQU must be followed by numbers, not labels)
Line format (line number) '(label) (mnemonic) (comment) e.g. 10 'start: ld a,65 ;load the accumulator with 65 40190 'ret 37 'loop: 156 ';comment
Upper/lower case not important and may be mixed
Line numbers: Decimal 1-65535
Labels: Maximum length of 18 characters. Must not start with & May contain spaces. Must be terminated with a colon.
Mnemonics Maximum length of 60 characters. Official Z80 instructions only.
Comments: No maximum length. Can contain any characters. Must start with a semi-colon.
Numbers: Supports decimal, hexadecimal (must start with &), (as parameters) binary (must start with &X). Plus and minus sighs may be used at the start e.g. -&1c, +32, -&X11.
Arithmetic expressions are not supported e.g. use LD A,7 instead of LD A,5+2. Strings not accepted e.g. use LD A,33 instead of LD A,"!" Labels may be used where 16-bit numbers are required e.g. LD HL,label

Here is a list of all the error messages/reports together with a description of what they mean and why they occur.

Missing ORG statement
The assembler encountered a valid mnemonic before an ORG statement had been issued. Every program must start with ORG (after a [of course!).

Unknown mnemonic
Specified line contains a mnemonic that the assembler does not recognize. Most likely cause is a simple typing error e.g. LLD A,1.

Mnemonic too long
Mnemonic part of line is more than 60 characters. This can only occur if the line in question uses DEFB (DB) or DEFW (DW).

Missing parameter
The mnemonic you have specified requires a parameter which is missing e.g. LD A,

Invalid number
A number you have specified contains illegal characters e.g. LD A,"1" OR 9*7 LD (IX-1),&ffgh ADD &X1211

Number out of range
A number you have specified is too small or too large. All numbers above 65535 or below -128 will automatically be rejected e.g. LD HL,70000 LD A,-129 DW 65536 ORG &F1234 In addition, if a number exceeds 255 where an 8-bit number is expected this error will occur e.g. LD A,256 DB 300 AND &X100010011

Displacement too large
The assembler was expecting a number between -128 and 127 e.g. LD (IX+200),1 LD (IY-129),C

No +/- sign
You attempted to use an index register without specifying an offset e.g. LD A,(IX) should be written as LD A,(IX+0)

Relative jump too large
A relative jump has been used but the destination address is too far away from the current value of the program counter register.

Bad parameter
A parameter you have given is not valid. This will occur when any of the above five error messages are not suitable. A common situation is the misuse of commas in a DEFB/DEFW etc statement e.g. DB ,1,2 or DW 1,2,3,,4

Label too long
You have defined a label which is more than 18 characters in length.

Invalid label
The label starts with a & symbol - this is not allowed - or the line contains more than one colon.

Duplicate label found
The label you wish to define has already been defined.

Unknown label
The label you have specified has not yet been defined.

EQU without label
Every EQU statement must have a label defined on the same line.

Code will overwrite assembler
You have attempted to position object code in an address which is currently used by the assembler or its label table.

Escape requested
No, nothing to do with Brixton prison. It simply means that you pressed the Escape key during the assembly process.

The actual code for the assembler program itself is stored from &8000 to &9BB0. In addition, information about any labels you have defined is stored from &7FFF downwards in a 'label table'. Bear in mind that this table is dynamic and its precise size will vary according to the length and number of the labels you use (see below). The assembler will do its best to protect itself and to prevent any object code overwriting it. Having said this, it is not impossible to trip it up or for your m/c programs to directly poke values into its space, so be careful!

To display the value of any labels you have defined, use the |LABEL command. Firstly, place the label you wish to search for into a string e.g. A$, then type |LABEL,@A$. If the label is found then its value will be displayed in decimal form.

```
10 '[
20 'ORG &7000
30 'label1: RET
40 'label2:
50 'ORG &7500
60 'label3:
70 'label4: EQU &6600
```

Type in the above program followed by |ASM and use the method just described to find values for each of the four labels. The results should be 28672 (&7000), 28673 (&7001), 29952 (&7500), 26112 (&6600) respectively. For those not already familiar with assemblers, the EQU directive is used to assign a specific value to a label, rather than the current value of the program counter. A special case of the |LABEL commands is if you ask it to search for the label "&". This will display the position of the bottom of the label table in decimal form e.g:

Bottom of label table = 32741

Well I think that's about all I want to say. Not too many bells and whistles, just a good solid assembler that can cope with most things. This is only v1.0 so if there's anything you don't like about it or something you would like to see in a future vbersion then why not let me know.

Don't worry if this assembler business seems awfully complicated, we'll be getting plenty of practice with it over the coming months. See you next time.

DRIVE TIME

The latest offering from SD Microsystems comes under the scrutiny of John Taylor

As the new SD Micros 3.5" drive hits the streets, ACU samples a real high-capacity delight.

Most people who have looked into the prospect of fitting themselves out with a 3.5" disc drive will, by now, know of the enormous benefits of these beasts.

The access times for data are quicker, you can store more than double the capacity of the standard 3" discs and, more importantly, the 3.5" discs themselves are a darn sight cheaper and easier to get hold of.

Admittedly, there has always been the initial hurdle of costs to leap over, before being able to access this new found power. The unfortunate problem for 464 owners, is that they will always need to purchase a DDI drive first, enabling the machine to address a second drive properly.

For 6128 owners, however, this does not apply. But, even so, many owners are still cagey about paying out for a new drive and then having to fork out another £20 or £30 for a rom or ram-based system to access the high capacity performance of the 3.5" disc.

Rom box

On top of this, a rom box to sort out your gear will put you even further in the red before you get operating. Of course, extra power does cost you money, you only need to look at the cost of PC equipment to tell you that. So where does the new SD drive fit in with all this?

Well, for just £79.95, not only do you get quite possibly one of the quietest, and neatest, 3.5" drives on the market today, but you also get a high-capacity formatter thrown in absolutely free.

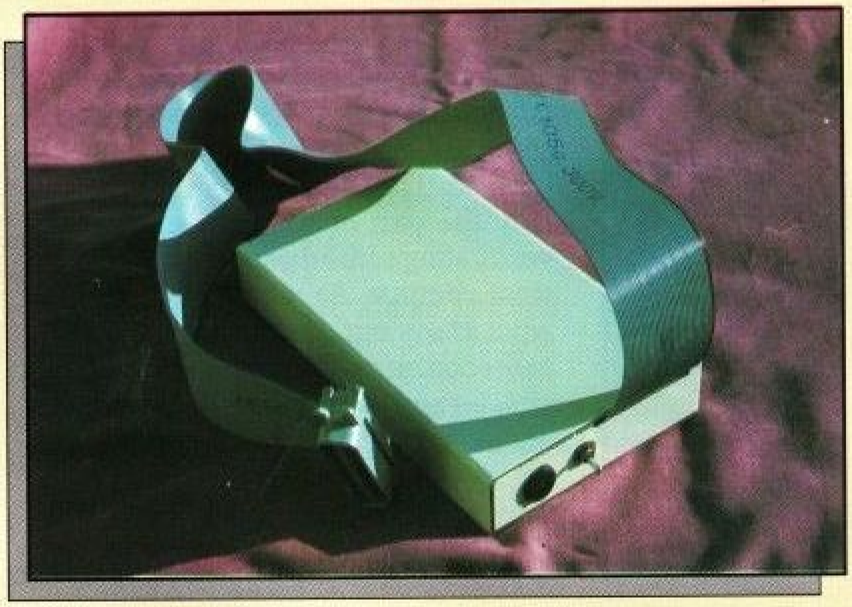
What this means, is that you can now access up to 800k of disc storage space, without the need for Ramdos or Romdos applications and the entailing extra expense.

Simple to connect to your 6128, all you need to do is plug in the drive and install the free 400k per side software by entering |b at the ready prompt, followed by run"bcode" and then select your option from the extensive menu, allowing you to copy material to and from your drives at will.



Disc doddle

Formatting and accessing the second side of your 3.5" disc is a doddle, using the side switch located on the back of the drive to flick between sides one and two, and then using the normal Disckit routine on your cp/m disc to do the rest.



Other features allow you to copy whole discs, while a special wildcard option gives the ability to copy specified and marked files to and from your drives.

Standard 3" mode must be used in cp/m mode, although your data can still be archived onto 3.5" using the file transfer routines provided.

In short, the SD Drive looks great, feels great and is an absolute boon to anyone requiring cheap and extensive storage space. At present, a widget is being worked on to make the drive compatible with the Plus machine and, eventually, those clever people at SD Micros intend to put an end to the 3.5" drive side switch problem with a new switch of their own devising.

Using a special three way switch, with up and down options for the two sides of the disc, as well as a neutral position in the middle for users of Ramdos and Romdos applications, who need to access both sides of double density discs, this new device should be pretty much of a major coup for SD Micros.

In the meantime, the SD Drive forms a pretty major coup in itself and, if you have been put off indulging in a 3.5" drive in the past, for whatever reason, the specifications of this little beauty should make you think again.

As soon as any new developments take place on the drive, we at ACU will be giving it the full lowdown. For now, try dropping Steve Denson a line at the address below for more information about this slimline tonic to your storage power.

John Taylor

The SD Micros 3.5" second disc drive & software
Cost £79.95
SD Microsystems
PO Box 24
Holbeach
Lincs
PE12 7JF

THE DUNGEON MASTER

DM sings the praises of his recent visit to a dungeon in Birmingham. Read on and find out why...

I'll start this month with the good news. Finally I've got enough free space to tell you about a marvellous weekend I spent in Birmingham at the end of October. This was at the invitation of the adventure magazine, Adventure Probe and it was to attend their annual convention. This is when adventurer's from all over the country and with a variety of different computers, get together to discuss their favourite hobby with like-minded friends. It was an opportunity not to be missed as it gave me the chance to view some of the adventure software not available for the CPC and also to test some of the latest Amstrad software that is nearing completion. Further details on those will appear here as they are released. Adventure authors, columnists and players mingled happily and chatted for several hours and certainly made the trip worthwhile. This was the second convention to be held and due to the outstanding success of the first two, I predict that this will become a firm fixture for years to come. Roll on next year, I can hardly wait.

A special highlight of the convention is the presentation of awards that have been voted for by the Probe readership. I was surprised and delighted by how many awards were won by people who are associated with the CPC and who also appear regularly as contributors to this column. So please put your hands together and applaud the following good friends of ours, who won awards despite all the competition from the other computer formats.

1991 Adventure Probe Convention results featuring CPC adventure software & personalities:

Most helpful PD library:
2nd – Adventure PD (Debby Howard)

Most helpful adventurer:
3rd – Joan Pancott

Best text-only 8 bit adventure:
1st – *Axe of Klot* by Larry Horsfield
2nd – *Spiro Legacy* by Ken Bond

Best graphic 8 bit adventure:
2nd – *Eve of Shadows* by Rob Buckley
3rd – *The Hermitage* by Tony Collins

Best 8 bit role playing game:
1st – *Heroes Quest*
2nd – *Lords of Chaos*
3rd – *Bards Tale*

Most helpful software house:
1st – FSF Adventures (Larry Horsfield)
3rd – Wow (Joan Pancott)

Honourable membership of adventure Probe:
Joan Pancott

Most promising author:
1st – Bob Adams
3rd – Larry Horsfield

Congratulations to all of the above winners and it's marvellous to see that the Amstrad is still capable of attracting such talented people.

And now to the bad news. It seems a shame to talk about something sad after all the above excitement but needs must. Over the past months I have mentioned the name of Mark Eltringham several times, both as a Scroller and as a seller of adventures via his company Recreation Recreation. Well I'm sorry to say that Mark has disappeared and left everybody high and dry. He no longer lives at his advertised address and all attempts to contact him have failed. If you are owed money then I can only suggest that you contact the Trading Standards Officer in Norwich. Hopefully this will not be necessary but until I hear from Mark, I must assume the worst.



NEW RELEASES

WoW Software have been adding to their extensive list again. They are pleased to announce that they have now taken over the CPC distribution of the Atlas Adventure adventures, Gruenapped!, Atalan and Helvera, Mistress of the Park.

Also newly released this month is Hounds of Hell by Peter Clark. Hounds is a two-part text adventure written with the PAW system and is only available on disc. The story outline is that you play the part of a crime reporter, investigating some disappearances in the west country. As with all adventures, what starts out seeming like a simple task soon turns into something far more sinister and you'd better have your wits about you for this one. For prices, etc., on all the above, contact WoW Software at 78 Radipole Lane, Weymouth, Dorset DT4 9RS.

Tom Frost is a well known author on

the Spectrum scene and he has now written his first PAW'ed adventure for the CPC and PCW, called *The Lost Dragon*. Topically, this adventure is loosely based upon the 1990 Probe convention, when the sharp-eyed Tom noticed that the hotel they were using did not have a lift button for the third floor? This gave Tom the germ of an idea for an adventure and the result has now been converted from the original Spectrum version, using PAW. Basically a find the missing treasure type of adventure but with a Tom Frost game - nothing is that simple. You can order the game from Tartan Software, 61 Bailie Norrie Crescent, Montrose, Angus, Scotland DD10 9DT. Price £3.95 on disc.

Colditz Escape is another new release this month. Written by Frank Fridd and sold by his own company Friddsoft, this is a story based around escaping from the German prison at Colditz at the time of World War II, you'll no doubt be surprised to learn. It is a two-parter and is written entirely in Basic. I haven't got very far into it yet but you can beat me to the end by sending £2 tape or £3.50 disc to Woodlands, 107 Primrose Way, Chestfield, Whitstable, Kent CT5 3QN.

THE MY LAMP WON'T WORK DEPARTMENT

We have two lost souls this month seeking our assistance. First up is Jonah Dearlove from Yeovil who is having trouble getting past the dragon's lair in Castle Master. Well we covered this problem in the November issue so hopefully you have now completed this game Jonah. If for any reason you missed it then drop me a line again and I'll try and reprint it for you. Secondly, we have Ruth Jenkins of Dover seeking help with the second half of *Classic Adventure*. This would take far too long to answer here so I'll blow the dust off my old solution and try to seralise it for you soon.

HINTS & TIPS

Peter Clark is a new addition to our Scroll this month so without further ado, here are Peter's tips:

Scapeghost:

The objects must be found and picked up in the correct order to build up your strength. The order is:

1) Thistledown – found at Joe Danby's grave.
2) Dry Leaf – found beneath copper beech.
3) Petal – found at the grave with the marigolds.
4) Matchbook – found at the corner of the path.
5) Pebble – found at your own grave.
6) Fishbone – the dog has it wedged in its throat.
7) Twig – found west of shed.
8) Gnomon – found by pushing the sundial with the dog's help.

In the front garden of the cottage in Part 2, keep on concentrating. Freeze the ditch to get the map.

Look in the herbs to find something useful.

The Base:

To open the safe in the Governor's office:

Turn dial right 6; Turn dial left 5; Turn dial left 3; open safe, get pass.

The torch is under the bed in the spare room.

To cross the catwalk, wait when you hear the footsteps and then keep going south.

You need the pepper pot to get rid of the dogs in Part 2. This is found in the hut but you will need a torch to find it.

The saucepan in the kitchen will provide what you need to pass the dogs in the courtyard.

The Test:

Go for a ride in a box at the stone quarry.

You need the oil from the tractor. Get it using the bowl and the spanner.

Create an explosion to open the doors by the bulldozer.

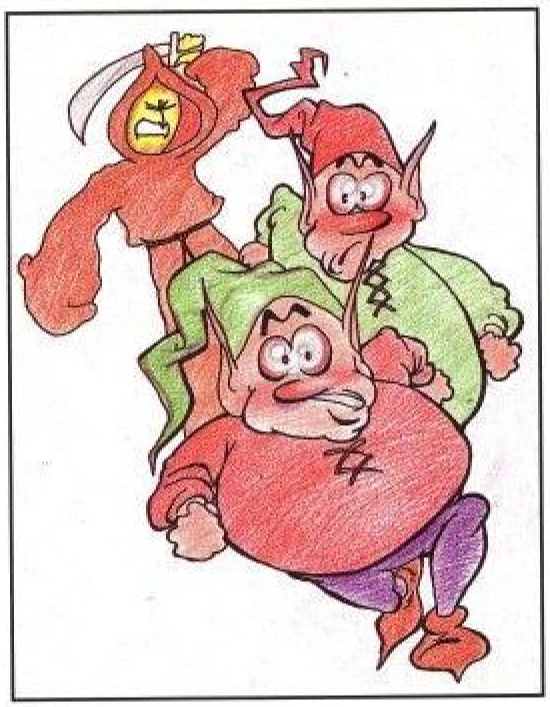
Clean the bottle found in the wine cellar for a surprise.

Well I hope that I've covered your particular problem in the above selection but if not, you should know by now what you need to do. Just write in and tell me the title of the game and where you are stuck.

Scrolls of Wisdom

The following good people who are experienced adventure players, have kindly offered to help any readers who are having difficulty with a particular problem. Please do not ask for full solutions and treat the 'Scrollers' with due respect. Either telephone them *only* during the times shown or include a stamped S.A.E. if you write to them.

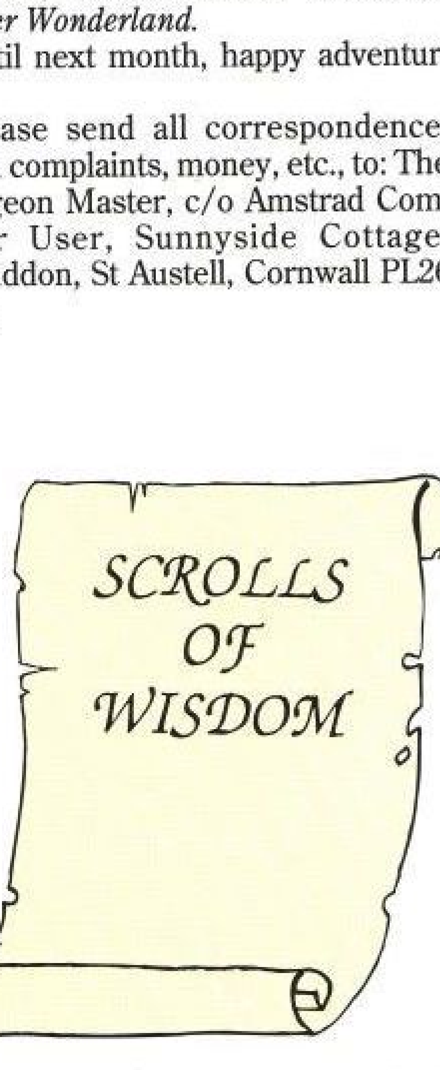
Jim Struthers, 112 Disraeli Street, Cowpen Quay, Blyth, Northumberland NE24 1JB. Jim has been adding to his list again: *Adventures of Zebedee Gonig, Aftershock, Apache Gold, Atalan, Beerhunter, Behind the Lines, Black Knight, Big Sleaze, Boredom, Castle Blackstar, Castle Dracula, Castle of Skull Lord, Cave Capers, City for Ransom, Detective, Dracula, D.A.A., Detective, Escape from Koshima, Emerald Isle, Flook 1&2, Forest at the Worlds End,*



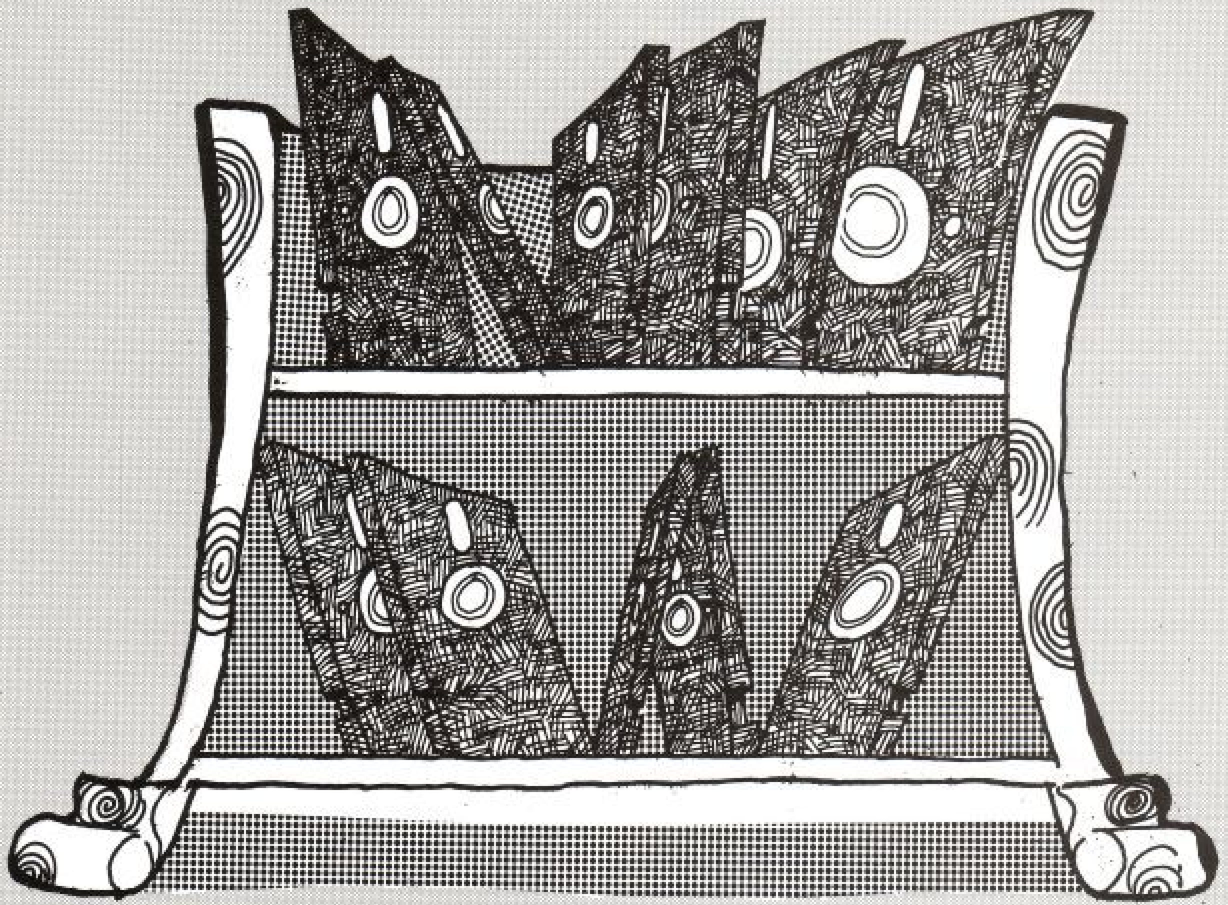
Frankenstein, Grue-Knapped!, Gremlins, Guardian, Helvera – Mistress of the Park, Hermitage, Heroes of Karn, House out of Town, Hunchback 3, Imagination, Jewels of Babylon, Lost Phirious 1, 2&3, Magician's Apprentice, Message from Andromeda, Microman, Mindshadow, Mystery Mansion, Mustery of Indus Valley, Neverending Story, Nova, Nythyel, Orifice from Outer Space, Panic beneath the Sea, Prison Blues, Project Annihilation, Project Volcano, Price of Magik, Rebel Planet, Red Moon, Rick Hanson, Seabase Delta, Shymer, Smashed, Souls of Darkon, Storm Mountain, Stryptiche, Talisman of Power, Top Secret, Total Reality Delusion, Twice Shy, Village of Lost Souls, Warlord, Werewolf Sim, Wolfman, Winter Wonderland.

Until next month, happy adventuring.

Please send all correspondence, hints, complaints, money, etc., to: The Dungeon Master, c/o Amstrad Computer User, Sunnyside Cottage, Carluddon, St Austell, Cornwall PL26 8TY.



PD Scene



DTP steals the scene again, along with a few gripes for Uncle Bob to deal with.

Desk Top Publishing programs seem to be all the rage right now on the CPC PD scene. In case you don't know what these wonderful programs are capable of, then I'll try to explain. If you already know what they are, then please meet us again at the start of the next paragraph. Okay? Still here? Right, if you have ever wanted to organise and print out a page - such as a magazine page like this - complete with text in columns, graphics, large headlines, fancy fonts, saved text, graphics, fonts etc, and be able to manipulate it all on screen until you have achieved the desired layout, then this is the type of program we are discussing here. Now let's rejoin the others.

The fact that these programs are appearing in the Public Domain at all is a little short of amazing, for it is only a short time ago that commercial programs to do the same thing were selling for lots of spondoolas. The latest addition to come my way is called POWERPAGE V1.2 and has been written by Richard Fairhurst, who also happens to own and run ROBOT PD. No prizes for guessing which public domain library it is available from. Richard looked at what was already available on the market and felt that he could do even better. Has he succeeded? Well he feels confident enough to call it *The ultimate DTP program!* so let's take a look at the specifications:

Computer: CPC 464 (plus disc drive) or 6128. All features fully available whether you have 128K or 64K. Also recognises two drives when used.

Fonts: You can have an unlimited number of fonts on each page, as well as selecting italic, underline and thin styles in each font. A font design utility is also included. TIP: *Remember the first rule of publishing; the only people who use every available font – are the people advertising the font program!*

Speed: Due to extensive use made of machine code, headlines are drawn in seconds rather than minutes (with optional centring and automatic word-wrap) and scrolling from top to bottom of page takes only a few seconds. You will have to have used *some other* program to appreciate just how much faster this is!

Compatibility: Clip art and fonts available for AMS's *Stop Press* can be easily imported. TIP: *Many PD libraries can supply these quite cheaply.*

Text display: You can select micro-justification, centring, right justification or word-wrap, for either imported text or in direct typing mode, auto-flow for flowing text around graphics while also using any of the above options.

Graphics: Drawing facilities are also included and offer rubber banding, rectangles, ellipses, fill, invert and erase.

Printing: Printer routine works on all CPCs.

So if that has already whetted your appetite, need I mention that the disc comes complete with full documentation, a host of support programs, example fonts, clip art, an example page, that the program is fully menu driven and that finally, it is available for only 45

pence? No, I didn't think I need do. For a truly remarkable bargain, send a blank disc, SSAE and 45p to Robot PD today and ask for selection number AMS87.

I have received a few complaints from readers who have been less than satisfied with the lack of response that they have received from some PD libraries. I have taken up some of the complaints with the libraries concerned and they have in most cases admitted that they have had some problems keeping up with the demand, apologised and promised that it wouldn't happen again. Case closed, or so I thought until this letter arrived from B. A. Egerton:

I am writing to you regarding tape based PD. Over the last 12 months I have been appalled by the way tape based users are treated. For instance, I have written to PD libraries enclosing SAEs and sometimes enclosing money and tapes, never to hear anything again. As well as being expensive it doesn't make the libraries look very good. I'm not saying all libraries are like this but this leads me to why I am writing to you.

As far as I know there is only Robot doing tapes at the moment and after my last attempt to get software I shall not bother. I have had software from them before but last time I sent them a tape, money, etc. and after two months had heard nothing. So I wrote to them three times enclosing SAEs and have never had a reply from them. Scull PD were just the same about 12 months ago. On the other hand Data PD and Demon PD replied to my letters in a couple of days and apologised that they didn't do tapes. Tony Kingsmill said that the chap who used to do tapes for him might do me some tapes if I wrote to him, which I did and have heard nothing.

I know tapes take time and are more expensive to do, but there're loads of tape users, especially now there's the 464 Plus. So I have set up my own PD library with the help of my daughters. It is called Egerton PD and it's Tape only. We have quite a lot of programs but could do with loads more, so if any of your readers could help I will be glad to hear from them.

Would it be possible to use any of the ACU listings in the library as I have collected loads over the years. I will send you some demos when they are ready. We all like ACU and the new format's even better.

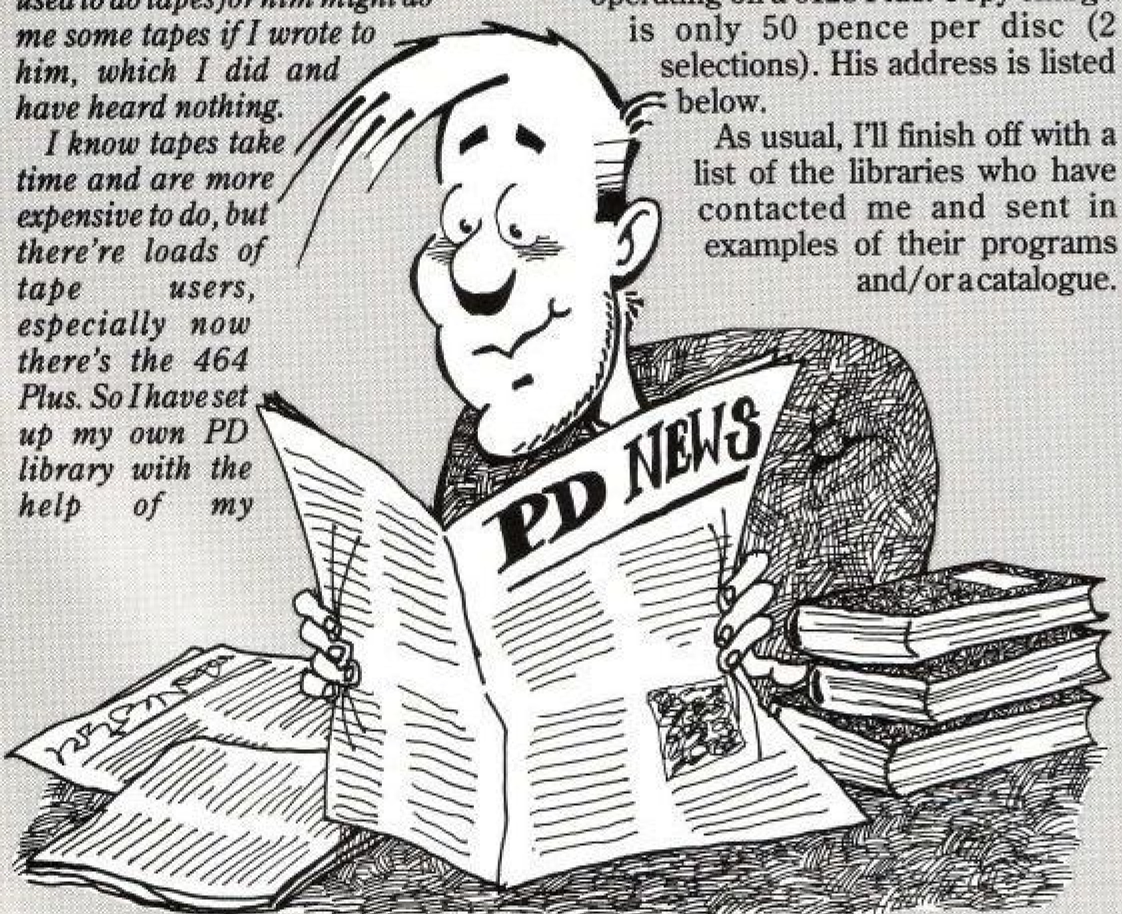
Thank you for writing and sharing your experiences with us. I hope that this letter is treated seriously by all the libraries and this will be the last time I receive this type of complaint. I know it won't but I can wish – can't I? Good luck and success with your new Tape only library and I have included your address at the end of the article.

Regarding the question about using ACU listings as Public Domain. At the moment, copyright is owned by ACU and the original author's and therefore cannot be released as public domain material. This is being looked into as you read this and the situation could very well change in the near future. Watch this space for an announcement as soon as a decision has been made by him upstairs.

Unconfirmed reports are coming in that the Wacci PD club and magazine has closed down. Further rumours suggest that a re-launch is to be attempted by a team of (ex) members and contributors. The full details will appear when I receive them.

And finally, Graeme Chesser has asked me to mention that his new library – 3D PD Library – is now open for business. It will be disc only as it is operating on a 6128 Plus. Copy charge is only 50 pence per disc (2 selections). His address is listed below.

As usual, I'll finish off with a list of the libraries who have contacted me and sent in examples of their programs and/or a catalogue.



If you are a public domain library of you wish to recommend one or even a particular program, then I'll be delighted to hear from you. You can write to me at PD Scene, c/o Amstrad Computer User, Sunnyside Cottage, Carluddon, St Austell, Cornwall PL26 8TY.

3D PD LIBRARY
44 Echline Grove,
South Queensferry,
West Lothian EH30 9RU.

ADVENTURE PD.
10 Overton Road,
Abbey Wood,
London SE2 9SD.

DARTSMA PD LIBRARY.
c/o Adam Shade,
47 Kidd Place,
Charlton,
London SE7 8HF.

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Park Street,
St Albans,
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EGERTON PD LIBRARY (Tape)
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Stafford,
Staffs ST17 9TH.

PENGUIN SOFTWARE
Ruxley House,
28 Mount Hermon Road,
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SOUNDS LIKE PD
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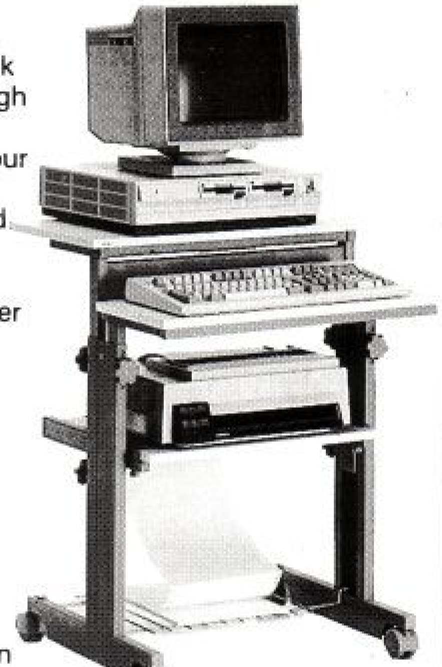
The above libraries will be happy to send you a stocklist but please include a stamped self addressed envelope.

For those of you with a modem, you can try down-loading some free public domain programs from the CPC file areas on:

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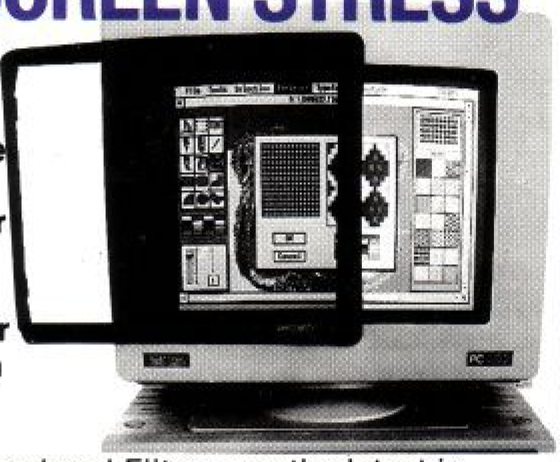
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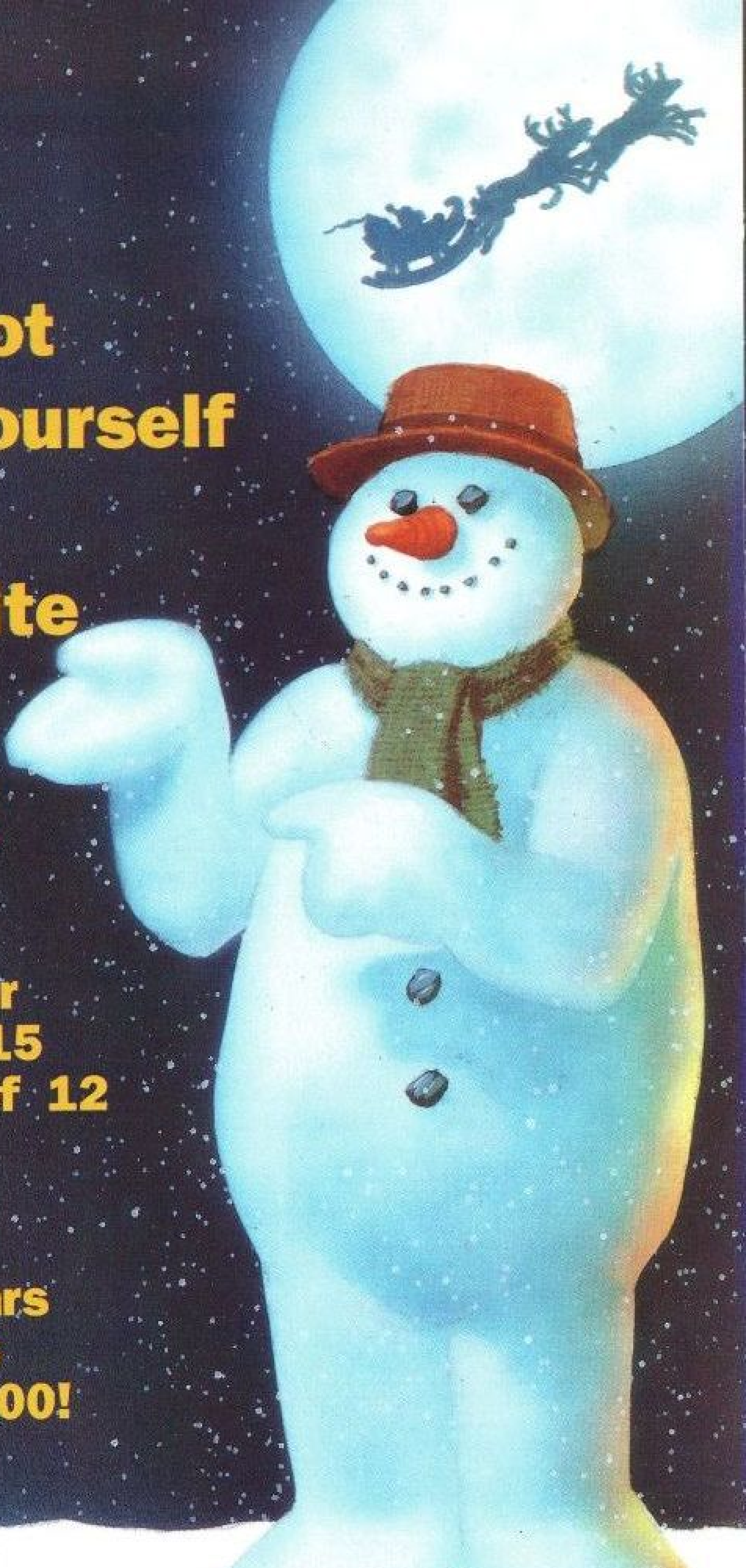
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Grease your trigger fingers as the ACU crew goes back to basics with the epic Super Space Invaders, helps out those awesome dudes, the Teenage Mutant Hero Turtles and has a go at fisticuffs in the brutal Pit Fighter

BOMB ALLEY

SUPER SPACE INVADERS

The alien threat returns!

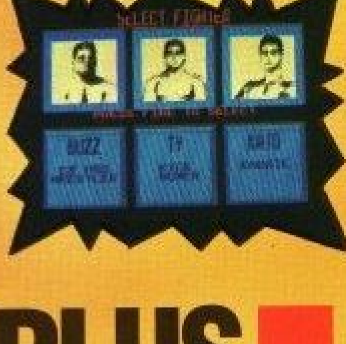




TMHT

Yep! That means the heroes in a half shell. Shredder's in trouble!

PIT FIGHTER



Truly brutal streetfighting action for your pleasure.

PLUS

World Cup Rugby makes its appearance at last, alongside some extra epic compilations and the best budget coverage on the market. Get your goggles on and get down to the Alley. You really can't afford to miss it.

TOP 20

1 (1) New Zealand Story – Hit Squad
2 (3) Shinobi – Mastertronic
3 (2) Quattro Coin-ops – Code Masters
4 (8) Quattro Skills – Code Masters
5 (16) Altered Beast – Hit Squad
6 (NE) First Division Manager – Code Masters
7 (13) Terminator 2 – Ocean
8 (5) Moonwalker – Kixx
9 (6) Dragon Ninja – Hit Squad
10 (4) Bubble Bobble – Hit Squad
11 (14) Dizzy Panic – Code Masters
12 (12) Turbo Outrun – Kixx
13 (7) Batman – The Movie – Hit Squad
14 (9) Magic Land Dizzy – Code Masters
15 (NE) Turrican – Kixx
16 (15) Indiana Jones – Last Crusade – Kixx
17 (10) Cabal – Hit Squad
18 (11) Quattro Cartoon – Code Masters
19 (NE) Soccer Rivals – D&H Games
20 (NE) Dizzy Collection – Code Masters

Last month's position in brackets



Turtles 2

Yo! The dudes are back and this time they are madder and meaner than ever.

The Turtles may not be getting the market share of toy sales this year and the movie sequel may not get the hyper billing it got last year but, if a quick glance at the computer game is anything to go by, this is one sequel that's going to be a surefire success.

Slickly put together and featuring some truly excellent gameplay, *Turtles 2* the sequel is quite simply a joy to play.

The scenario is fairly easy to follow, in that both April O'Neil and Splinter have been kidnapped by Shredder's henchmen, and your job, of course, in this one or two player blast, is to rescue them both, before going on to annihilate the bad guy himself.

Got all that? Then get out and start blasting. As with the original offering, you get the chance of picking your fave hero in a half shell to do the dirty work and your first task, is to rescue April from the burning building.



On the hunt, you'll be attacked by the infamous Foot Clan on all sides, before Rocksteady takes you on in a damaging duel.

Once April has been rescued, it's out onto the streets and into the sewers on the trail of your master, Splinter. Here, you'll be met by fierce Foot resistance, as well as the beastly Bebop, so work hard to progress through the car park to the factory and the final showdown in the Technodrome.

Watch out for some truly awesome attack forces as you go and be prepared to lose valuable life points in battle. This is one game you certainly can't get through without losing a few lives.

At all times, keep a lookout for the pizza supplies. They are usually lurking behind posts and spikes, so hunt around and make sure you pick up these invaluable energy bonuses.

If you think you can take on robots, Drillers, flame throwers and, naturally, the might of the Foot Clan, then you might just make it through to the final conflict in Krang's Room, where Shredder awaits you.

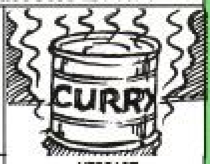
Take some time to master the controls if you can, picking your way through the first few rounds carefully as you get used to the high kicks and the lunges in this awesome bash.

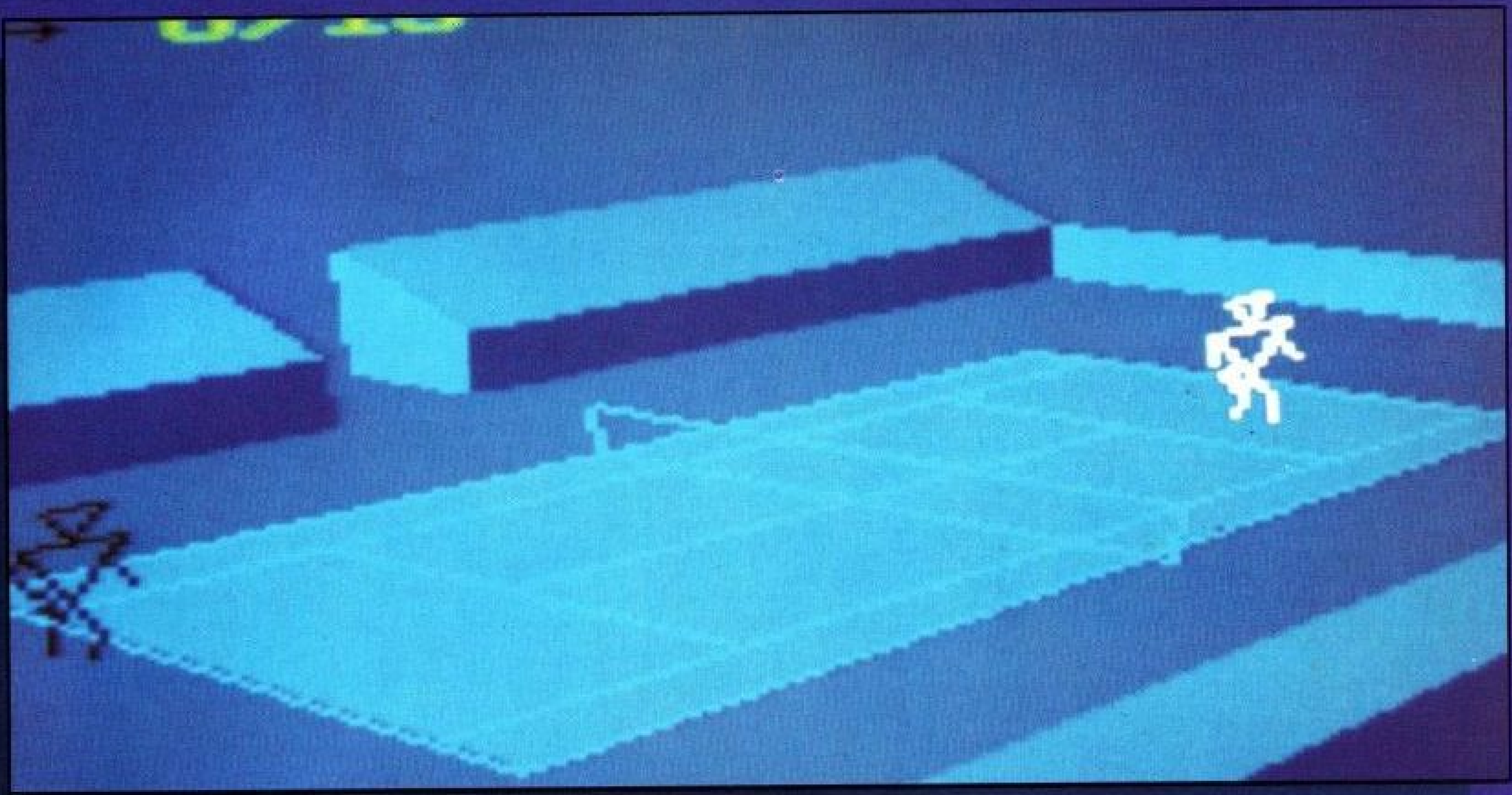
The graphics are excellent and the sound effects are fairly smart to boot. Featuring plenty of atmosphere and excitement, Turtles 2 has got to be a must for lovers of serious beat-em-ups and, if you just like something that is good fun to play, this one won't let you down either.

A truly worthy sequel that is well worth a bash, even if it is a multiloader on cassette.

Jim Johnson



ROUND-UP			
NAME	Turtles 2		
FROM	Image Works	PRICE	Disc £15.99 Cassette £11.99
89%	78%	88%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT



SUPER SIM PACK

Yet another blistering compilation, and a fairly varied batch it is too.

Well, you can't get a much more varied bunch of blasts than this little lot, ranging from sports action to combat simulation and beyond.

In short, whatever your tastes, you should find yourself catered for with this excellent collection.

Starting off, you've got the superb, if slightly strange, *International 3D Tennis*. Getting used to the weird wire frame characters is going to take some time here but, once you have, the gameplay is superb and the choice between tournament and championship should be more than enough to keep you hooked for hours.

If race action is more your style, then *Crazy Cars II* should be right up your street. The aim of the game is to put the pedal to the metal in your supercharged Ferrari F40, on the hunt for the corrupt cops who are running a stolen car racket.

As you tear through four states of America, watch out for the honest road cops and plan your route carefully. Check your route at all times and, above all, enjoy this rip-roaring chase blast that'll blow your socks off.

Next up is something for footie fans around the world, in the form of the superb *Italy 1990 Winners Edition* offering, allowing you to change history and pick your own teams for the World Cup final.



With some excellent special movements and controls thrown in, this blast is every bit as good as the original and is guaranteed to have you sweating by half-time. Get used to the player controls and use them wisely to secure the Jules Rimet Trophy at the end of the day.

The final offering on this superb compilation, is MicroProse's *Airborne Ranger*, a combat simulation with a difference.

Pick your Ranger and get prepared to take on some of the most challenging missions you'll ever have to face. Choose between rookie and veteran and, if you choose to play the experienced hand, you can also take on a series of missions from the campaign option.

Once you've chosen your mission, the next job is to select your weapons from the pod, before getting aloft for your first parachute drop.

The controls are fairly simple and the gameplay is superb so, if you like your action rough and ready, give this one a whirl.

All in all, *Super Sim Pack* is excellent value for money and provides perfect, all-round entertainment for your spending power. Nice one.

John Taylor

ROUND-UP			
NAME	Super Sim Pack		
FROM	US Gold	PRICE	Disc £19.99 Cassette £14.99
85%	78%	88%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT

PIT-FIGHTER

Brutality is the name of this game and, if you don't like it, you'd better get out of the pit.







When all is said and done, there are not many computer games that don't tend towards brutality and violence at some point, even though many try to veil this trend behind fancy scenarios and outstanding graphics.

What we have here, however, is a little offering that doesn't even bother to wash its hands for supper, after knocking somebody's block off that is.

For sheer, out and out intention to do damage, you won't get much better, or should I say worse, than *Pit-Fighter.* Taking your pick from three very different specialist street fighters, your task is to outpunch, kick, wrestle and chop your way through seven different fights, before you get the chance to come up against the shady Ultimate Warrior.

The three fighters on offer are Ty, a champion kickboxer, who's feet are lethal and are well worth keeping at a distance, Kato, who's black belt karate skills should provide you with a fairly formidable defence and, finally, Buzz, an ex pro-wrestler who sees his way through duels using sheer brute force.

Get used to the controls and make sure you have studied each fighters' speciality moves to get the best effects, then get into the pit to take on the likes of The Executioner, Heavy Metal and Chain Saw Eddy.

Fights are won on KO points, so your main aim is simply to knock hell out of your opponent and make sure that you are still standing at the end of the duel.

Every third round, you get to face a grudge match, which means facing your partner if you are playing in two player mode, or a computer clone of yourself if you entered the arena alone.

At all times, look out for objects strewn around the floor, such as chests, barrels and sticks, which you can throw at your opponent to weaken him. Power Pills are also very handy if you manage to locate them.

At the end of each round, your points are awarded, depending on how many rounds you lasted, the number of knock-outs you dealt out and, can you believe this, how brutal you were.

If you're into this kind of thing, then no doubt you'll already be champing at the bit to go out and buy Pit-Fighter. OK, so it's only a bit of fun on the computer but, since the graphics aren't the best in the world and the sound effects won't win mega-prizes on the 8-bit machines, you may be better off looking elsewhere to get your kicks.

On the 16-bit formats, Pit-Fighter looks a treat, whereas the jerky scrolling and delayed actions of the 8-bit release make this one something only for ardent fans of blood sports

Jim Johnson

ROUND-UP			
NAME	Pit-Fighter		
FROM	Domark	PRICE	Disc £17.99 Cassette £10.99
68%	67%	65%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT

CHART ATTACK

Five heart stopping hits on one compilation. It's got to be good!

Fantastic graphics linked to exceptional gameplay: now that's what I'd call a fairly sound basis for a best seller. Take that for granted and multiply it five times and I think we're talking mega-success here.

What am I talking about? The latest collection from Gremlin, and what a belter it is too. Golden oldies they may be, but most of them represent the pinnacle of 8-bit gaming and, put together, this is going to hook you in a matter of minutes.



If it's race action you're after, then you've got two options here, starting off with the excellent Lotus Esprit Turbo Challenge. Line up against eight computer opponents, including a friend if you like, and burn some serious rubber to make sure you finish in the qualifying position for the next race.



As you progress, the tracks get harder and you'll need to remember where the pit stops are to make some hasty repairs and refuels. This really is blistering action at its best. Try it for yourself.

Next up, you'll be donning your armour to take on the role of courageous Arthur. Are you good enough to save the beautiful Princess Hus? That's what you will be finding out in the brilliant Ghouls 'n' Ghosts offering. Over five levels of sensational action, be sure to collect the special weapons and knock hell out of the ghosties, zombies and other nasty pieces of work that come your way.

In Super Cars, you are thrown into the future on a tortuous race track set in the desert. Take your money and choose your charger before hitting the tracks in this splendid future race shock.

Use your prize money to buy extra armour, missiles and whatever you like to blow your opponents off the track. Just be sure to keep winning, or you'll end up broke.

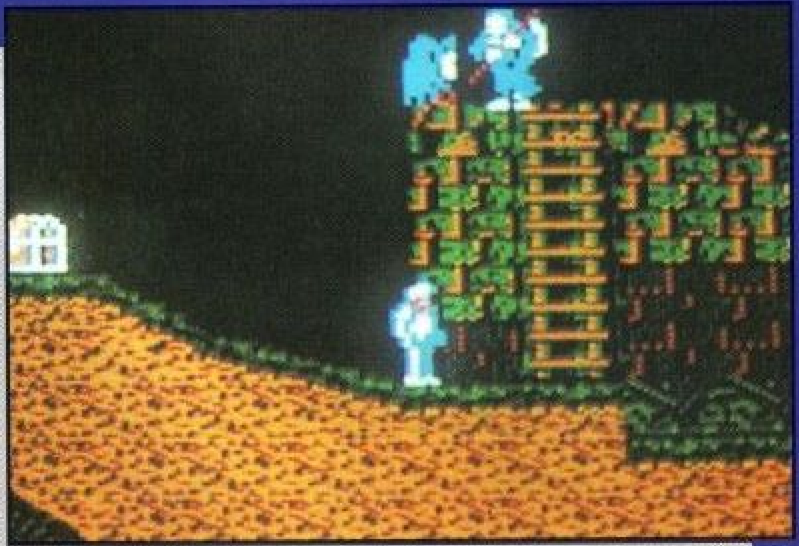
Five levels of zany adventure await you as you take on the guise of Monty Mole in Impossamole. Use the shops wisely to buy more equipment and look out for the many hidden surprises as you battle to survive your first quest. If you haven't played this one yet, be sure to do so in the near future.

Last up on this blistering collection, is the awesome Shadow of the Beast. Master the controls quickly if you want to survive and battle your way through the very different backdrops to the final confrontation. At all times, check your heartbeat and try to keep calm in battle to survive.

In short, this is one collection that needs to be seen to be fully appreciated. Brilliant graphics, superb gameplay and outrageous sound effects make this one of the best buys on the market. Don't miss it, whatever you do.

Jim Johnson





ROUND-UP			
NAME	Chart Attack		
FROM	Gremlin	PRICE	Disc £19.99 Cassette £14.99
94%	92%	98%	GOLD
GRAFFIX	SONIX	PLAYABILITY	VERDICT

SUPER SPACE INVADERS

Yes, the original arcade blasters have returned with a vengeance. Join in and get zapping.

Was it really way back in 1978 that the infamous *Space Invaders* first made their appearance in the arcades? Well, I for one am suddenly beginning to feel my age. Isn't it about time I stopped playing around with computer games and moved onto something a little more serious?

Nah! Certainly not and especially not when it looks like the games mode has turned full circle with the release of this totally brilliant recall of the early days.

Based very much upon the original Space Invaders blast, which swept the nation like a forest fire, Domark's *Super Space Invaders* features all of the riveting aspects of the original which so gripped us the first time around.

Do you remember that thump-thumping as the aliens moved closer to your crumbling defences? Do you remember ducking out just in time to catch the mother ship at the top? Remember those heart-fluttering



moments as you chased the last little critter across the screen to finish the level?

I thought you might. Besides, if you don't, you must have had your head stuck in a pillow for the last decade!

Taking all of that on board, you're going to like what you get when you open up this little package. Designed as a two-player simultaneous shoot 'em up, your main aim, naturally, is to destroy the advancing aliens before they reach your home base, or before they destroy you.

Shooting the mother ship as it flies across the top of the screen will afford you with exceedingly handy power-ups for use in later levels. Remember, to start off with, you can only fire one shot at a time so that, if you miss, you have to wait for your missile to disappear off the screen before you can fire again.

Very frustrating, I know, but it will soon teach you to be more accurate.

As you progress, the aliens will begin trying more and more effective battle tactics. In fact, there are so many different attack movements, that Domark has very kindly included a formation manual for you to study carefully.

If you are not too sure of their movements, it could mean futile loss of life, so read the manual very carefully and try to anticipate the alien onslaught.

Of course, if you really want to do well, then you're going to have to brave the missiles and go for the mother ships. You really are going to need those extra weapons to succeed, especially on the bonus rounds at the end of each three waves.

Here, you get two bonus combat options, which will appear at random without giving you any choice in the matter. The first is a battle to the death with an End Of Level Guardian.

The guardians really are tough mothers, so if you haven't managed to pick up at least double, if not treble, shot power ups along the way, you probably won't do too well.

Remember, each of the guardians has a weak spot. Pick it out and blast hell for leather at it to succeed.

The alternative bonus round consists of a running battle to stop your cattle being herded up by the alien scum. Race across the screen, zapping all of the alien saucers and keeping an eye on your cattle as the aliens attempt to kidnap them using tractor beams.

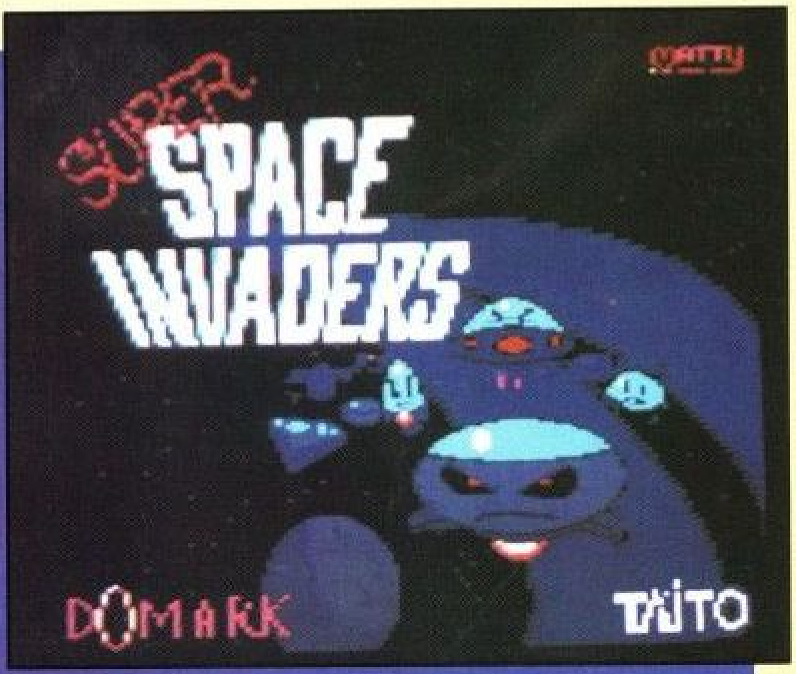
You'll know when a kidnap is about to take place as the cow in question starts zipping from left to right. For higher bonus points, let the saucer take the cow up some distance before zapping it.

Super Space Invaders is not just about all out blasting. If you watch the gameplay very carefully as you progress, you will start to notice certain patterns occurring. For instance, there is certainly a pattern that determines which weapon is dropped by the mother ship. Work it out to make sure you get the best offensive weaponry.

At certain stages, you will also be aware of the hidden levels. Be careful on entering these cold, as you might not get too much of a chance to work out the alien battle strategy.

On other levels, the aliens will not only change formation, but they will start to expand as well, just to make matters even more difficult for you. Some of these levels will see them expanding into doubles, or even triples, making shooting them twice as tricky.





On these levels, it is best to stop the expansion before it starts, by shooting out alternate columns. This way, the aliens cannot link up, allowing you to then pick off the remaining scum at a fractionally more leisurely pace.

What more can I say? This is one blast that is guaranteed to sell like hot cakes. Be sure to read both of the game manuals carefully before launching yourself into the attack, although if you fancy taking a shot in the dark and trusting to luck and intuition, it certainly will not distract from your enjoyment of the game.

Enjoyment is what it is all about. The thrill of the chase, the atmosphere, the nailbiting tension as the aliens get closer and start speeding up. It's all there. If you love SpaceInvaders, then this has got to be your next purchase. The graphics are excellent and the sound effects are pretty smart as well.

So, it just goes to show that the simplest games give the most satisfaction. Since the original blast hit the streets, we have had a decade of Space Invader clones and copies of other original blasts, so it is quite refreshing to see a games house unashamedly admitting that if you can't beat them, join them. Well done Domark, this one will be big.

Jim Johnson

ROUND-UP

NAME	Super Space Invaders		
FROM	Domark	PRICE	Disc £17.99 Cassette £10.99
89%	87%	94%	GOLD
GRAFFIX	SONIX	PLAYABILITY	VERDICT



THE CARTOON COLLECTION

The Codies have done it again. Yet more brain teasing action than you can handle in one big bundle.

Here's something that looks set to take the charts by storm, unless I'm very much mistaken. Five excellent Code Masters blasts, three of them never seen before on the CPC format, coming together to make a superb all-round package of entertainment.

Starting the ball rolling is one of the new blasts, *Seymour at the Movies.* Featuring a *Dizzy*like formula, the aim of this game is to help podgy Seymour make his way through the Hollywood studios and into his first starring role as a mega-star.

As you can imagine, there is a whole host of puzzles and conundrums to solve, not to mention the vast array of objects that need to be picked up and used at crucial moments. This is a real gem of a game and should do blindingly well as a release in its own right.



Next we have the inimitable *Little Puff,* who is off to Dragonland to further his adventures. If you know Little Puff, then you'll like this one, as he desperately tries to find his way home through the hostile environment. Brilliant cartoon fun and totally addictive.

The next new release is *Spike in Transylvania,* which sees you, as the hero, battling through the spooky Transylvanian castle, on the hunt for your lost Viking comrades.

You may have been washed ashore in your Longboat, but this one is certainly no washout, featuring plenty of arcade adventure and bundles of fun along the way. Again, this one is great fun and guaranteed to hook you from the very start.

The other new release is a tremendous offering called *Slightly Magic.* Here, you must take on the role of the novice magician, solving puzzles a plenty and leaping from platform to platform, to try and put an end to the chaos in Bigwiz the wizard's laboratory.

The only problem is that you are only a novice and, as the title says, only slightly magic, so don't be alarmed when things don't go quite as you want them to. Excellent fun and a guaranteed success as an individual release.

Last up on this superbly crafted Codies' compilation, is the original *Dizzy* itself. If this one has not been played by every CPC game lover by now, then there must be something seriously wrong.

A landmark in gaming when it originally hit the streets, this brilliant blast is every bit as fresh as it was back then and is guaranteed to raise laughter, as well as tears of frustration.

Each of the games feature the usual Code Masters colours and style, making for brilliant gameplay and great fun to boot. Try it and you'll see what I mean.

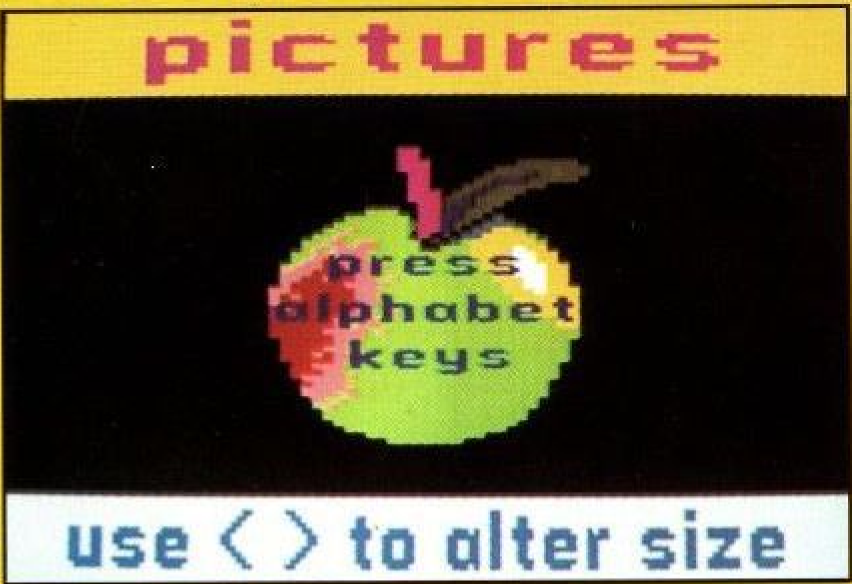
Jim Johnson

ROUND-UP			
NAME	Cartoon Collection		
FROM	Code Masters	PRICE	Cassette £9.99
90%	88%	95%	GOLD
GRAFFIX	SONIX	PLAYABILITY	VERDICT

PICTURE BOOK

Educational gaming for the very young gets a boost from Triple R.

Featuring four very different programs for the two to five year old age group, Triple R's *Picture Book* offering is the first in a new series of educational games that looks set to become firm favourites with both children and adults alike.



Before we go into the programs featured on the disc/tape, the first novelty supplied with the game is the special keyboard overlay option.

As children learn lower case letters before upper case, the overlays (there are two of them) are designed to fit over the computer keys to show only lower case letters.

Switching on the game, you are then offered a choice of sticking to the original Qwerty set-up, or altering the key configuration to alphabetical. A simple device it may be, but it really does do the trick to make keyboard operation for youngsters a doddle.

Moving onto the programs themselves, there are four to choose from, offering excellent tuition in the rudiments of spelling and counting.

First of all, the child is asked to pick a letter from the alphabet, corresponding to a picture which appears on the screen in *Alphabet Book*. For example, C is for Cat. There is also a neat picture-size changing option to add to the fun.

Spell It does exactly what it says, kids spell the object in the picture. Get it wrong and the computer gives clues to lead the child to the correct answer, a happy tune, and the smiling clown. Excellent stuff.

Moving on, the next program, *Count 'em,* allows the child to count the number of objects on screen and then enter the amount through the keyboard. Again, rewarding tunes greet the correct answer.

Last, but by no means least, the *Snap* program gives the child the chance to spot identical pictures, pictures and words or pictures and corresponding letters.

With the option for up to three children playing at any one time, Picture Book is a superb opportunity for kids to learn together and have fun. Featuring various difficulty levels, children will soon get the hang of the alphabet, as well as numbers up to nine, making an ideal start to the learning process before graduating to other offerings in the Triple R series.

The graphics are bright and clear, the controls are simplicity itself and the sound effects are cleverly designed to create a happy atmosphere to all of the activities.

John Taylor





ROUND-UP			
NAME	Picture Book		
FROM	Triple R	PRICE	Disc £15.95 Cassette £12.95
88%	86%	90%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT

Budget Basement

Five more epic blasts for your perusal on the cheap side.

OPERATION THUNDERBOLT

If you are a serious shootie freak, then you'll no doubt have experienced the thrill of *Operation Thunderbolt* already. If you haven't, then you've missed a real treat.

Aimed at those people who just can't get enough trigger action, this little blast takes you through some of the most awesome combat missions on the market and guarantees jam-packed action all the way.

Armed primarily with your sub-machine gun and grenades, your task is basically to blast everything that gets in your way, from foot patrols, through armoured infantry trucks and tanks, to airborne gunships. If your bullets don't get them, then your grenades will.

Be warned, however, as you only have limited firepower. Don't go too Gung Ho to start with, otherwise you'll be left high and dry in the midst of raging gunfire. Use your ammo sparingly and take out the artillery before the soldiers, as they can inflict more damage.

As you progress, don't forget to shoot the crates as they parachute to the ground and pick up any power ups that you find. Believe me, you'll need them all if you want to survive.

All in all, Operation Thunderbolt boasts excellent graphics, realistic sound effects and more trigger action than you can handle. As a one- or two-player blast, you'll find it hard to better this offering in the combat stakes.



DRAGON SPIRIT

Staying in the blasting mode, *Dragon Spirit* offers just as much opportunity to grease your trigger finger, but it features a slightly more imaginative storyline.

In short, the beautiful Princess Alicia has been kidnapped by the evil serpent demon Zawell. Who's going to rescue her? You, of course, in the form of a mighty fire breathing, bomb dropping dragon.

Sounds fun, doesn't it? Well, you're right. From the very start, getting used to the controls is fairly easy, while blasting your adversaries out of the sky is pure joy.

On each of the eight different levels, there are plenty of baddies to take out and, to start with, progress is fairly easy. However, if you want to get past the guardians at the end of each level, you'll need to collect as many power ups as you can.

To do this, you must shoot the glowing creatures and collect the eggs that they drop. Depending on the egg, you can expect such goodies as increased firepower, or even an extra fire breathing head if you're lucky.

To bring in a little strategy, each of the guardians has a weakness that you should determine before attack, although, to be fair, if you've collected enough power ups, sheer firepower should see you comfortably through the first few levels.

Viewed from above, Dragon Spirit features some fairly smart graphics and you won't find it too difficult to get hooked on.

If you like your shooties with that little extra, you'll find Dragon Spirit well worth the purchase. Plenty of action and some neat backdrops to create an excellent all-round offering.



CHASE HQ

Woah! The heat is on! This is one offering that kept the ACU crew away from their desks for a long, long time when it came out on the full-price label.

Fortunately, none of the non-stop action and high-speed chase excitement has been lost during the porting over to the budget label so that, what you have here, is a totally brilliant offering that is guaranteed to have you drooling over your keyboard from the very start.

As members of the elite SCI (Special Criminal Investigation) squad, your task is to chase and apprehend high speeding perps in your supercharged Porsche 928.

As soon as Nancy at HQ delivers the message, get your wheels screeching and head off on the hunt. In all, you have 60 seconds to catch each of the perpetrators and then another 60 to ram them off the road.

That's right, the only way to stop the perps is to demolish their vehicle, so get to it. Every time you ram the vehicle, the damage points mount up and, if you manage

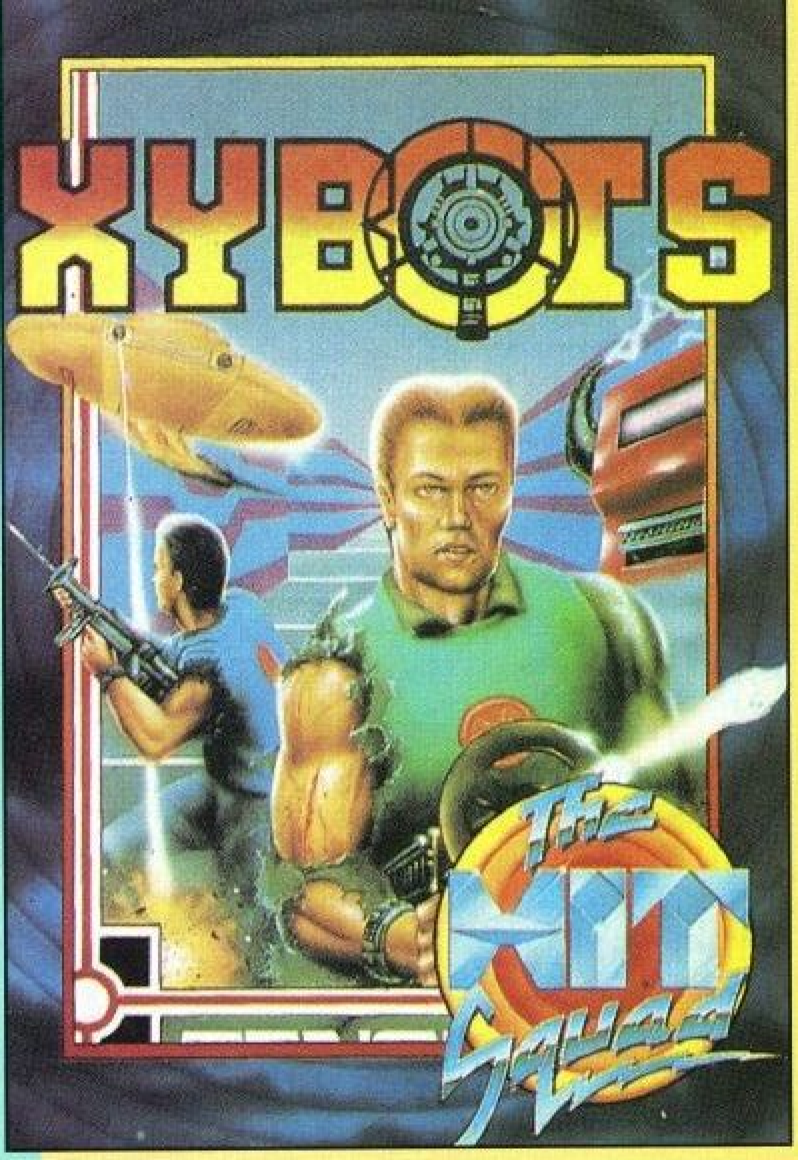
to hit them enough times within the limit, you've done the job.

Look out for other traffic on the roads, as they'll only slow you down and make good use of your limited turbo blasts to narrow the distance between yourself and the criminals.

Chase HQ has got to be one of the best driving games of all time. As a one or two player offering, the gameplay is totally out of this world, not to mention completely gripping.

Remember, practice makes perfect. You're certainly not going to wipe up on your first attempt but, oh yes, you're going to keep coming back for more until you do.

Excellent graphics, neat crash sound effects and an absolute joy to play. Get it!





XYBOTS

It seems like we're back in blasting mode again here. Oh well, never mind. Shooties always seem to do well around Christmas time and, if the full-price performance of this beauty is anything to go by, this one should shoot up the charts very quickly.

As Major Rock Hardy and Captain Ace Gunn, this two-player blast takes you down into the subterranean fortress of the master Xybot and his cronies, who are threatening to take over the world and do nasty things to us humans.

As you enter the mazelike corridor complex of the fortress, cock your laser gun and be prepared to do some serious damage, before the xybots do the same to you.

Making good use of the transporters, your task is to find the exit elevator to take you to the next level. However, you'll need to despatch with a few baddies first and also pick up a few energy pods, keys and coins to improve your playing power.

Complete a level and you can spend your booty in the special armoury ship, buying extra Zap power to stun your opponents, extra laser cannons, or even a very handy enemy mapper, enabling you to trace the xybots' movements at all times.

At the end of certain levels, you will have to take on the Master Xybot in a one-to-one duel. Victory will mean advancement to the next stage. Lose, and you'll be bumped back down a few levels. This can be very frustrating, but it will certainly fuel your resolve to get him the next time around.

Again, *Xybots* is very cleverly thought out and offers superb blasting power against some smart back-drops and very different opponents.

This one is quite a toughie, but getting through to the final levels is certainly rewarding and, if you like to put a little effort into your blasting, Xybots could well be the offering for you.

SEYMOUR GOES TO HOLLYWOOD

Well, you certainly couldn't get further away from shooties with this little bash from the Codies' stable. Who, or rather what, is Seymour then?

I suppose you could call him something of a slug. He certainly looks like one. However, this is no ordinary slug. No, this one is hellbent on being a superstar and that, of course, is why he's turned up in Hollywood, on the trail of his first starring role in Tinsel Town.

This is no shootie and, if you want to make it through the staggering 96 belting screens of Seymour, you're going to need every ounce of your grey cells to succeed.

Dizzylike in its appearance it may be, but Seymour is an instantly likeable character and the gameplay itself is sizzling from the very beginning.

Your first task, naturally, is to get yourself into the studios. Tricky when nobody recognises you for the star that you are. Get yourself a pair of dark glasses, however, and you could pass off for any of the major stars around, like Harrison Ford, or even Twiggy!

As you've probably guessed by now, Seymour is jampacked with all of the puzzles and tricks of the Dizzy games, featuring a whole host of objects to collect and then work out how best to make use of them. In true Codies' tradition, this budget blast is bulging with colour, great graphics, superb soundtrack and, of course, frighteningly good gameplay.

Use your noodle to work out the trickier conundrums and, basically, make sure that Seymour gets where he should rightfully be, in top billing position.

If you like Code Masters games, or Dizzy, or anything that makes you think, then Seymour is an absolute must. Great fun to play and excellent to look at, this is a top priority for your next purchase.

Also included in the forthcoming Cartoon Collection to boot, it looks like Seymour has a big future lined up for him.

Jim Johnson



Operation Thunderbolt	Hit Squad	£3.99	78%
Dragon Spirit	Hit Squad	£3.99	82%
Chase HQ	Hit Squad	£3.99	94%
Xybots	Hit Squad	£3.99	76%
Seymour	Code Masters	£2.99	95%

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PUTTING A LABEL ON IT

Do you have mislaid disc problems? Not any more, as Alan Scully explains.

Labelmaker is a utility from Goldmark Systems designed to enable rapid design and reproduction of 3 and 3.5" disc labels. Just think, no more unreadable writing on discs . . . this program could change your life!?

Labelmaker supports a vast array of printers and even has specialist drivers for the DMPs and Citoh M8510, as well as the standard Epson driver for printers such as the Star LC-10.

While designing your own labels you can save and re-load at any time. This allows you to build up a library of favourite labels, if you wish. All labels are saved as standard 17K mode 2 screens. This means that they can be loaded into art packages to add more advanced graphics to them. *The Advanced Art Studio* is ideal for this.

Commands in the editor are split



into two groups, those for 3" and those for 3.5". In most cases, the commands are the same for both labels with only a few changing.

3" Labels

Each label side consists of 10 lines each of 38 characters. Each line is indicated by a bar-marker to the left of the label window. Lines are selected using the up/down cursor keys, which will move the bar-marker to the required line. Pressing (ENTER) allows you to enter text into the selected line.

An optional title occupying the top two lines is available. This allows up to 19 double-height, double-width characters to be entered. There is also a centre line (for the spine of the disc) which allows up to 18 characters to be entered.

Text can be placed on each line in up to four different ways.

(A) Using RETURN on its own justifies text to the left of the line and leaves any text/graphic on the rest of the line intact.

(B) Using CTRL plus RETURN will centralise the text on the line and leave any text/graphic either side intact.

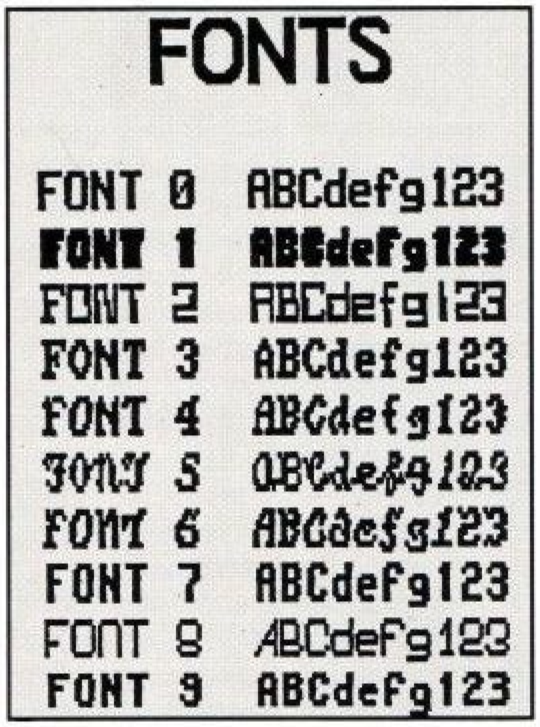
(C) Using SHIFT plus RETURN will centralise the text on the line and will delete any text/graphic either side.

(D) Using CTRL plus SHIFT plus ENTER will justify text to the left of the line and will delete any text/graphic to the end of the line.

Ten extra fonts are supplied, these are selected by typing F and the required number or F and RETURN to select the normal CPC font.

Other commands include: Invert label, to edit the other side; Outline Toggle, which draws/erases the label outline; Save and Load.

Obviously the most important part of the program is the printing. This is fairly fast, however as the print head makes only one pass, the quality suffers. Although speed is important, a quality option would have been nice. The only way to get a reasonable print is to use an over-inked ribbon but this usually smudges the print.



3.5" Labels

Almost all the commands for producing 3.5" labels are the same as those for 3" labels, with two exceptions.

(A) The Invert command now prints the write protect message and has been renamed to Initialist Label.

(B) The command for editing the Centre line has been removed.

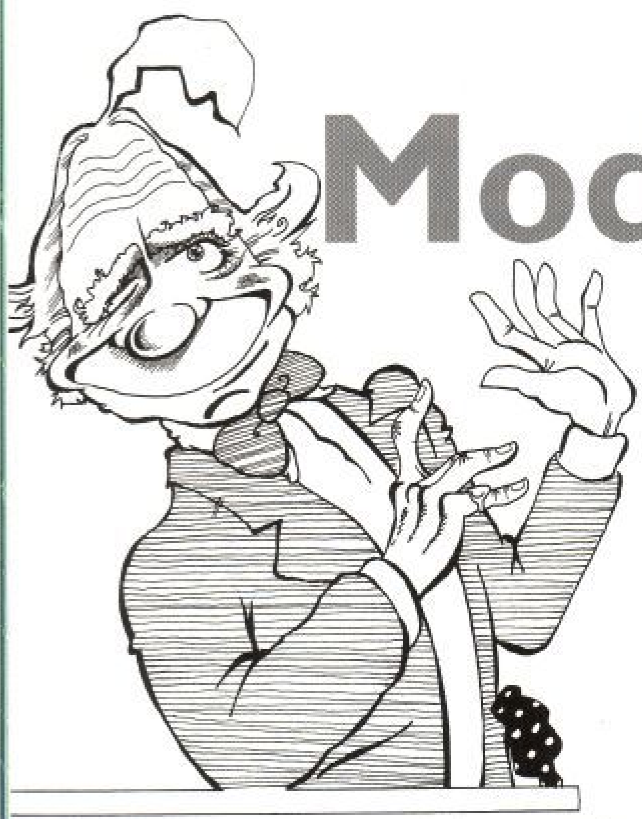
The only other difference is that the number of text lines have been increased from 10 to 18.

Verdict

For what it does, Labelmaker does it well. The missing high-quality print lets the program down badly. However, if you're looking for a disc label program, then Labelmaker is probably the only commercial one available and as such, is the one to get!

GOLDMARK SYSTEMS
51 Comet Road
Hatfield
Hertfordshire
AL10 0SY

Labelmaker is priced at £12 with a 10% discount for CPC Domain subscribers.



Modulation Blues

Doc Watson sorts out a juicy MP-2 problem before tackling the rest of this month's posers.

Here we are again – another month, another applications column. It appears that quite a few of you have made a new year's resolution to write in to ACU, as we've got a bumper crop of letters this month. So enough of these stalling tactics and on with the show...

Telly Addict

A square-eyed Hugh Hemmer hailing from Stone on Trent writes:

"My question concerns the modulator/power supply model MP-2. I feel sure that lots of people, like me, bought their CPC6128 with mono monitor, because for serious work Mode 2 is essential and no matter what colour combination was used, the colour monitor's definition was just not good enough. However, for games, colour is very desirable so one bought the MP-2 to plug into the house TV.

But even after very careful tuning of a good TV, the result really isn't satisfactory and the MP-2's stability is downright poor. I know there has been a further update of the unit but (a) once bitten, twice shy and (b) you cannot get them anyway.

So, here is the question: can someone guide us through a relatively simple modification which would improve the performance of MP-2, especially its instability?"

Unfortunately Hugh, the MP-2 is never going to give the sort of clarity that a colour monitor can provide – colours may appear a little washed out and images could be slightly fuzzy around the edges.

Having said this, the MP-2's output is generally acceptable and the units I've seen working have not suffered from instability so yours may therefore have some sort of electrical fault. A good TV engineer should be able to perform the necessary tests.

As for 'modifying' MP-2s, my advice would be to leave well alone. I daresay that, as usual, numerous improvements could be made to Amstead's design, but you'd end up having to manufacture a new PCB and build on it from scratch. If your TV is of good quality and is reasonably modern then a far better solution exists – a SCART lead. A TV's SCART socket provides direct access to its red/green/blue electron guns, bypassing its decoding circuitry, thus eliminating the need for a modulator. You will, in effect, be using your TV as a colour monitor!

CPC-SCART leads can (or at least, could) be purchased from numerous mail order suppliers, but if you have trouble obtaining one why not make your own. All you need is a 6-pin DIN plug, a 21-pin SCART (or Peritel) plug, and some cable. The Maplin Electronics codes for these items are HH29G, FJ41U and XS42V respectively. Simply connect the following pins:

DIN Plug	SCART Plug	Signal Type
1 to	15	Red Video
2	11	Green Video
3	7	Blue Video
4	16	SYNC
5	5,9,13,17,18	GND/Earth
6	20	LUM

You may also like to connect some 330ohm resistors in series with the red, green and blue video signals to further improve the picture.

If all works correctly then why not incorporate the CPC's audio output as well? Insert a 3.5mm stereo jack plug into your computer and make the following connections:

Jack Plug	SCART Plug
Stereo Left	6
Stereo Right	2
Audio Ground	4

Hearing your CPC in glorious stereo really does make the world of difference!

Of course, you will still need your MP-s (or green monitor) to provide the correct power supply. Because the above cable will only cost about £3 to make I should forget about repairing the modulator altogether! Good Luck.

Post Graduate

The ever-helpful John Hudson has written in again with some more useful CP/M advice:

"Regarding Les Taylor's query about mixing the Graduate CP/M ROM, a silicon disk and a 3.5" drive (November 1991), there is no theoretical problem – when CP/M is loaded, whether from ROM or from disk, the drive specifications are placed in banked RAM and CP/M+ always looks for them there, not in ROM. All the programs like RAMDOS+ which allow the use of 3.5" or 5.25" disks alter the specifications held in banked RAM.

However, having used the combination very happily for a couple of years, I have had occasional corruption of files during transfers between drives C: and B: when using ordinary programs like a word-processor, database, etc. presumably because the read/write speeds of the two drives are so different.

My solution is to work with either C: or B: as much as possible and use PIP with the [v] (for 'verify') switch to do all important copying between C: and B: – exiting programs to make copies takes slightly longer but I load PIP into drive C: when I switch on the machine so it runs faster anyway."

Well Mr Hudson, what can I say? Once more I'm indebted to you and I know that Les Taylor will also greatly appreciate your letter. Thanks again.

Plus or Minus?

Surely, being the proud owner of a new 6128+ should be a happy experience? Improved design, a cartridge port, better connectors, more colourful games – a definite plus. John Clark from Northants describes the more negative side:

"As one of the many purchasers of the new-improved CPC, the 6128+, I'm becoming increasingly worried about the small selection of games, accessories and other weird and wonderful

contraptions thought of for the now-fading 'Old CPC', that haven't yet been converted for use on the plus range. For instance, OCP's Advanced Art Studio. Come on guys, we have bought the new car – it's just a shame that not enough people sell the petrol it runs on! How much longer do I have to wait for the above?"

I can quite understand your feelings John, and I bet you're not the only disgruntled 'plus' owner out there. It's a real shame that these machines, which essentially represent the pinnacle of 8-bit home computer technology, do not enjoy wider support. The problem of course, is that they were introduced rather late in the day, at a time when the commercial bandwagon had rolled on to pastures new (and with an extra eight bits). One can only dream of what might have happened if Amstrad had produced these machines back in 1984. Most CPC-related businesses seem more interested in shifting stocks of existing products rather than developing new ones (Peter Brunning is one obvious exception to this, bless his little cotton socks).

Of course, the vast majority of CPC software will work on the plus machines with little or no modification. Unfortunately, it's very often the remaining few programs that people are interested in e.g. OCP Advanced Studio, and I'm afraid the news here isn't good. The various people I spoke to had no firm release date, and one or two weren't even sure if a plus conversion was being worked on! Ah well, that's the way it goes.

Quite honestly, I'm surprised more cartridges haven't been released, if only intended for the GX4000 console. UK games producers have plenty of experience in writing CPC code, so why didn't they bother to convert some of their vast catalogue of titles, let alone develop some new ones? The answer has to be poor sales. The GX4000 lacks the sort of 'street cred' that Nintendo and Sega have built up, and is therefore unable to break their stranglehold. As is often the way in the computer world, it's not always the technically superior machines that win – if they did, the IBM PC probably wouldn't be around!

The situation is summed up by the fact that the only specific 'plus' peripheral to be released is an edge-connector gadget allowing it to use CPC add-ons. It's rather ironic that plus owners should have to pay more just for the privilege of using inferior connectors.

Serial Killer

On a lighter note, here's a long letter from your friend and mine, Keith Sterrow of Southall in Middlesex:

"Dear 'Doctor Watson', I hope you will excuse the inverted commas I have placed around your name, but I note in Amstrad Computer User a certain coyness when it comes to crediting its writers by their full names (Hairy Hacker, DM, Ziggy, Doc Watson – AKA Doc Wilson in the October '91 issue – to NOT name but a few!), much less publishing photographs of them occasionally. I begin to suspect, if a touch fancifully, that the entire magazine is actually written single-handedly by one gifted and extremely industrious computer journalist!

In any event, I should like to thank you for your recent mention on my enquiry about Supercalc2, and to thank Mr John Hudson who I have written to directly.

Encouraged by having had my query taken up in your column, I should much appreciate your further help with another problem. In a nutshell: by what reasonably cheap and straightforward method can I use the most powerful word processing package I possess, Brunword Elite, with a serial printer (a Ricoh/Aptec Flowriter RP1600 daisywheel)?

Brunword Wlite is designed for use with a dot matrix printer only – so, one might ask, why TRY to use it with a daisy wheel printer? Apart from the much higher speed of response, the main advantage would be the use user-definable single-character embedded printer command codes – in extreme contrast to the word processor in Mini Office II, which I currently use with the RP1600, that requires every printer command to be inserted in full. I fully understand that much of Brunword's flexibility could not be exploited on a diasy wheel printer, nonetheless, for certain professional applications this is the printer I need to use.

My setup is a KDS 8-bit printer port (substituting Brunning's special connector when using B.Elite) connecting the 6128s printer port to my 9-pin printer. The Flowriter is connected to the expansion port of the 6128, via an Amstrad RS232 (by PACE) interface. This is quite a convenient arrangement as both printers can be left connected to the computer. To enable use of the Flowriter I open the RS232 link with the RSX'\COPEN' followed by 'CPRINT,2' to divert the 6128's printer port output to the expansion port. This permits use with MiniOffice II but unfortunately it does not work with Brunword Elite, which both resets the computer on being RUN and, further, has no facility for giving the special Bar commands from within it to use the RS232 channel. Of course, I've no doubt I could use B.Elite indirectly by creating an ASCII file with it and using separate software to print it; but this would take time and would hardly be worth the trouble as, I expect, B.Elite's user defined codes could then not be used."

Phew! I think I've got all that! As for ACU being written by just one journalist, Chris Knight said: (alters voice & changes hat) "Definitely not!" while Hairy Hacker commented: (liberally applies designer stubble) "Most Unlikely!", so there I . . er . . er have it. The sight of half a dozen ACU journalists all cramming into one tiny photo kiosk (well, we're not made of money Keith) would not be a pretty one, so you can imagine what the resulting photo would look like!

Now onto the more serious part of your letter. Getting Brunword Elite to direct its output to your RS232 interface is indeed a challenge. I've a sneaking suspicion that because of its own 8-bit port, B.Elite's printing routines are not going to relinquish control willingly. Were you going to use Protext (my personal favourite) or Tasword then you could simply execute the necessary RSXs from within these programs, or insert them into their startup files. If this were not possible then it would be a simple matter to run a small machine code patch program beforehand but, as you yourself point out, B.Elite resets the computer when RUN.

Another possibility is to force the printer port's output onto one pin and use this as a crude serial signal, but unfortunately this also requires an initial patch to be run. My final idea is to devise a piece of circuitry to take the resulting parallel output from the printer port, and turn it into serial form. Not the easiest of solutions and definitely last resort material. It really is a shame that Brunword can't be just a little more flexible.

Armed with a disk sector editor, it may be possible to track down the piece of code that does the printing and modify it – this now increases the number of last resorts to two!

I shall endeavour to contact Peter Brunning to see if an easier solution exists, and update the situation next month. In the meantime, if any seasoned B.Elite users think they can help then why not write in and get all the glory.

That's about it for this time. Keep those letter/suggestions flooding in to the usual address and I'll see you all next month with another batch of problems.

UNDERGROUND READING REVISITED

Alan Scully makes some new additions to the Fanzine lists.

Virus

C/o Church Green, Shoreham-by-Sea, W. Sx BN43 6JQ
Price: £1 plus A5 SSAE

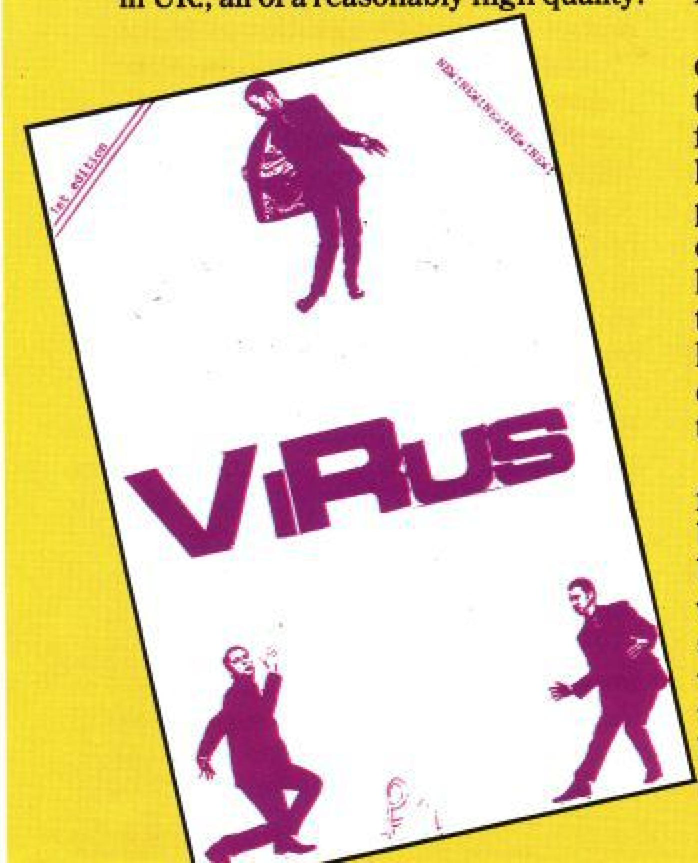
Virus is an excellent name for a computer magazine, but the strange thing is, it has absolutely nothing to do with computers! Virus is the brain-storm of a certain female called Jo, an ardent Vic Reeves fan (you can tell this by the fact that she actually had tickets for his live performances!). Issue 1 doesn't really contain much in its 24 pages although for a first attempt at a magazine it's quite good. Four of the pages are taken up by Jo's story about first meeting Bob and Vic, six by photographs, and another four by an interview with Bob. The other ten pages contain information such as tour dates, details of the official fan club and special offers (eg, Vic and Bob keyrings and mirrors). There's also a run down of magazines that Vic and Bob have appeared in.

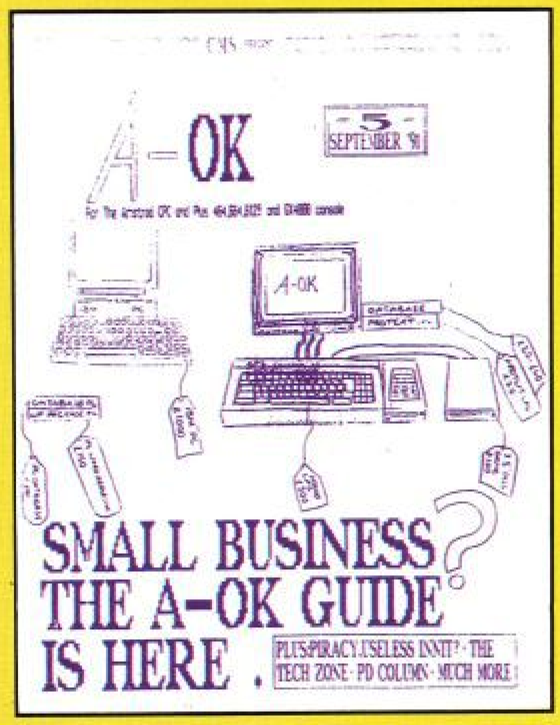
If you're a BNO fan then you should find Virus quite interesting, otherwise you're a boring sod who wouldn't know humour if it was invited to a tea party with Les (oooooonly joking. . .).

A-OK

31 Colebrook Road, Shirley, Solihull, W Midlands B90 2LB
Price: £1 bi-monthly

Last time, I reviewed eight magazines in UR., all of a reasonably high quality.





Unfortunately I can't say the same for *A-OK.*

While the magazine does contain some interesting articles it is let down by presentation. Produced using *Page Publisher* and *Stop Press,* A-OK suffers from faded print, bad page design and bad layout. Dotted through the magazine are handwritten comments, these don't exactly add class to the magazine. In fact A-OK has broken all the rules you are taught when you take a City and Guilds in DTP!

If the above doesn't distract you too much then you may find quite a few interesting articles lurking within A-OK's pages. The magazine covers everything from hardware to games to PD to serious software to listings, it's just a matter of finding the articles in the first place.

A-OK is one of those fanzines that looks terrible, but makes slightly better reading. With a vast improvement on style and layout A-OK would be a challenger to the other zines on offer, but as it is you'd be better with one of the others.

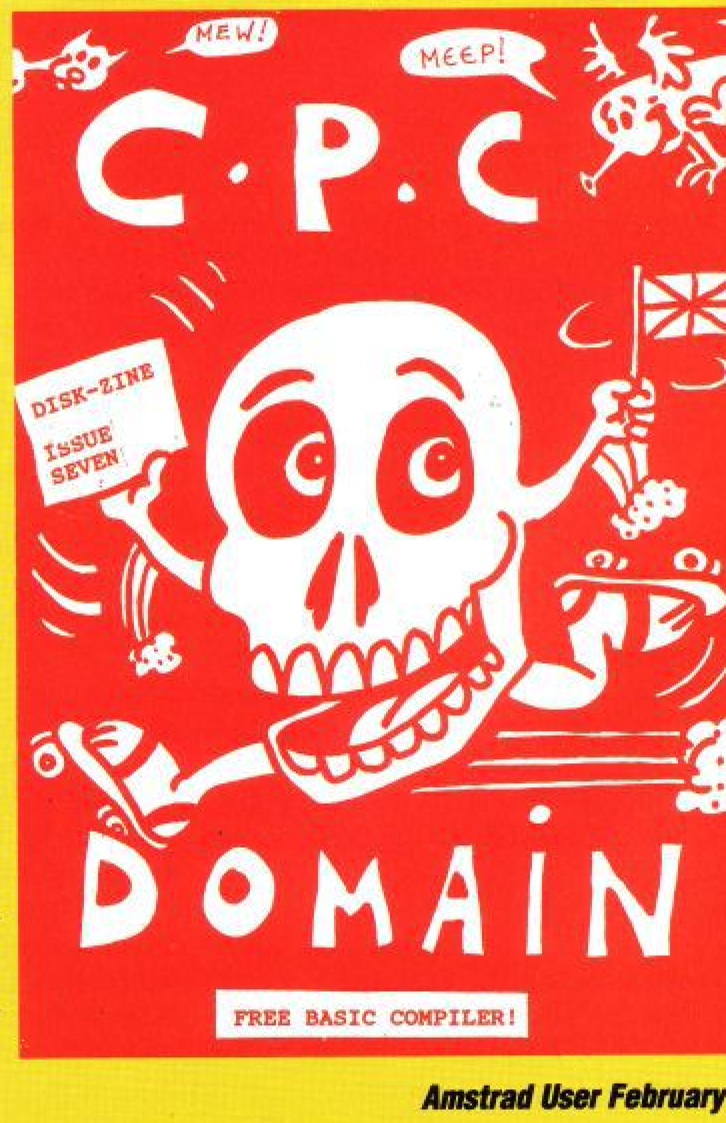
CPC DOMAIN D

119 Laurel Drive, East Kilbride, Glasgow G75 9JG
Price: £1.25 + disc + stamped SAE, every 6 weeks

Hey, this isn't fair, you're plugging your own fanzine again I hear you mumble in a furious tone, This update is supposed to be for new stuff. Ok, so I'm plugging my own 'zine again, but for a good reason, it is no longer being printed! Instead it is now available on *Disk*. The new disk-zine contains even more than before, and issue 7 (the first on disk) comes with a *free Basic compiler* that is actually *better* than the commercial equivalent (according to the reviews). I won't say much more about the disk-zine, just that issue 7 comes out on the 10th of December.

DON'T BUY WACCI

Wacci, mentioned last time in UR, has folded due to money troubles so if you're thinking of buying it, don't!



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Amstrad 8256/8512	MS	3.44	3.27	3.10
Amstrad 9512	F	3.44	3.27	3.10
Amstrad 9512	MS	2.95	2.80	2.66
Amstrad LQ5000	F	5.28	5.02	4.75
Brother M1009/1224	F	3.47	3.30	3.12
Brother M1509/1709	F	4.95	4.70	4.46
Brother M1724	F	5.95	5.65	5.36
Canon 1156A	F	3.73	3.54	3.36
Citizen 120D Swift 24	F	3.44	3.27	3.10
Commodore MPS801	F	3.34	3.17	3.01
Commodore MPS1230	F	3.43	3.26	3.09
Epson MX/RX/FX100	F	3.95	3.75	3.56
Epson LX80/86	F	2.47	2.35	2.20
Epson FX/MX/RX80	F	3.44	3.27	3.10
Epson LQ800/400/500	F	3.64	3.46	3.28
Epson LX400/800	F	3.44	3.27	3.10
Epson LQ2550	F	5.30	5.04	4.77
H.Packard D/Jet Cart		14.80	14.43	14.06
NEC P2200/P2+	F	4.95	4.70	4.46
NEC P6+/P7+	F	5.34	5.07	4.81
OKI 390/391	F	4.60	4.37	4.14
OKI ML 182/192	F	4.30	4.09	3.87
Olivetti DM100/200	F	3.43	3.26	3.09
Panasonic KXP1080-83 1090-92, 1124, 1180-90	F	4.00	3.80	3.60
Panasonic KXP1524-40	F	6.90	6.56	6.21
Seikosha SP1200	F	3.44	3.27	3.10
Star LC10	F	3.44	3.08	2.92
Star LC10 4 Col	F	5.95	5.65	5.36
Star LC24-10/LC24-200	F	3.50	3.33	3.15
Star ND/NR/NX15	F	5.71	5.42	5.14
Star NL10	F	5.11	4.85	4.60
Star LC200	F	3.44	3.27	3.10

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THE CHEAT ZONE

I've had a pretty exceptional time lately, what with fending off unwanted Crimble pressies and trying to grab a few hours of undisturbed playing time on my favourite machine.

It's always the same, isn't it? You open up your parcels and inside you find loads of games goodies that you just can't wait to ram into your disc/tape drive, but what happens?

That's right, you're not allowed to be unsociable at Christmas, because the family is coming around and going up to play computer games is just downright rude, isn't it?

Ah well, hopefully all the to do has died down now, allowing you to get on and try for the high scores in peace. With that in mind, here's a little something special for openers, to help you to do just that on one of this year's biggest Crimble hits, *Turtles 2*.

Now then, to make the most of this excellent keypress cheat, what you need to do is get on to the stage where you choose your two turtles. Pick any ones you fancy and then move on to the key define option. Select define and then redefine the keys as C,H,E,A,T. That done, when asked to confirm this selection, press N for no and then redefine your keys any way you like, for joystick or board.

This done, you should be able to advance fairly swiftly through the levels and get even further towards the showdown in the Technodrome.

How's that for starters? Not bad, eh? Anyway, staying on the old keypress theme, here are a few more to whet your whistles. Remember Loudhailer Goose and Pitiful Lobsters? You don't? Well, they are the exceptional codes for *Agent XII*, which we printed in an earlier edition. To round this one off nicely, try typing in THE CHANGE GOT RAINED ON, which just happens to be the entry level code for part four.

If you liked the others, then this one should help you out a treat. Moving on, does anybody out there remember the golden oldie from Amsoft, *The Galactic Plague?* If you do, then typing in ASTRO while you are playing the game should help to advance you a level or two.

Last, but by no means least, in this month's little keypress foray, are a couple of goodies for Deliverance. The password for level two is RZSPWEES.

Sorry, no clues as to what it means, but it certainly does the trick, as does RBRPWEUJ for level three.

We'll take a slight pause here, for all you keypressers to get to work... OK, all done? Right then, we'll move on again, this time into the world of Multiface owners.

This time, Daniel Prest has been hard at work again, conjuring up some of his old magic on a variety of games, including a couple of golden oldies for you games hoarders.

Here goes:

GAME	ADDRESS	POKE	EFFECT
Deliverance (pt1)	&1131	&00	Infinite lives
Deliverance (pt2)	&1137	&00	" "
Deliverance (pt3)	&1134	&00	" "
Tour De Force	&33D6	&00	Infinite Cycles
Triaxos	&5B94	&00	Infinite Time
Triaxos	&7322	&00	Infinite Ammo
Mask 2	&169D	&00	Infinite Fuel
Cybernoid	&2BAE	&00	Infinite Lives
Cybernoid	&1A0D	&00	Infinite Weapons
Dr Who (Mines of Terror)	&00D4	&00	Infinite Regenerations
Cauldron 2	&1C90	&00	Infinite Lives

Boot that little lot up and see how much more damage you can cause. Thanks, Daniel, I'll see if we can't dig up a little reward for your efforts.

Before we move on, I've received a small missive from a Mr Cartwright of Caerphilly (sounds a bit cheesy to me), concerning a lack of pokes for Auf *Wiedersehen Monty.* Have we really overlooked this mighty offering? If we have, I am truly sorry and shall start hunting around immediately to rectify this problem. Meanwhile, if somebody already has some belting pokes for this awesome blast, then let me know and I shall certainly make sure they get a mention.

Onwards, ever onwards, this time to the adventuring domain. Our little outing to Famous Five land proved so popular with you readers, that I am forced to divulge a few more of the secrets involved in *Five on a Treasure Island.*

So, brace yourselves and let's go. Now then, once you have warmed yourself up and eaten on Kirrin island, you will need to investigate the shipwreck on the rocks. First of all, however, you must find the axe, which is hidden in a crate in the cave. To do this, go to the Eastern tip of the island. Examine the heather to find a tree stump. Tie the rope to the tree stump and lower the rope down the hole to get down.

Once there, either Julian or Dick must smash the crate to get the axe. Now go West and board the wreck. In the Captain's cabin you must examine the seaweed to find a cupboard. Julian must chop at it to open it and the lock will shatter. Take out the wooden box and get George to row you all back home.

Next, go to Uncle Quentin's study and examine the shelves. Read one of the books and then go up into the attic with the box. Open the narrow window and throw the box down onto the crazy paving. When you get back down there, Quentin will take the box into his study. Now you must wait until you hear him snoring, take out the box and open it. Read the map and take it out of the study.

After this, Quentin will take it away from you and, shortly afterwards, sell the box and all of the contents to a stranger.

Got all that? Well, this is where the action really starts hotting up and, if you want to know any more goodies about Five on a Treasure Island, well, you know where to write.

Okeedokee! Another cry for help I received very recently, was from a proud owner of the all-new *Dizzy Collection*. G. Brownlow of Hayes, Middx, would like to know how on earth you can get across the river Styx and be able to pay the ferryman at the other side?

Well, G, this is going to be one of the simpler posers of this blast, so I wish you well on your quest, as it gets tougher from here on in.

In short, you need something valuable to pay the Ferryman. This something valuable turns out to be a

nugget of gold, located in a hidden cavern just before you arrive at the river.

First, you must pick up the pick axe, and use it to smash the rock which blocks the cave entrance at the bottom of the hill, underneath the clouds.

Once inside, jump around a bit until you locate the nugget, pick it up and you should be able to bribe the ferryman very nicely. Remember, however, not to pay him until you get on the other side. Now, that sounds vaguely familiar. Where on earth have I heard that before?

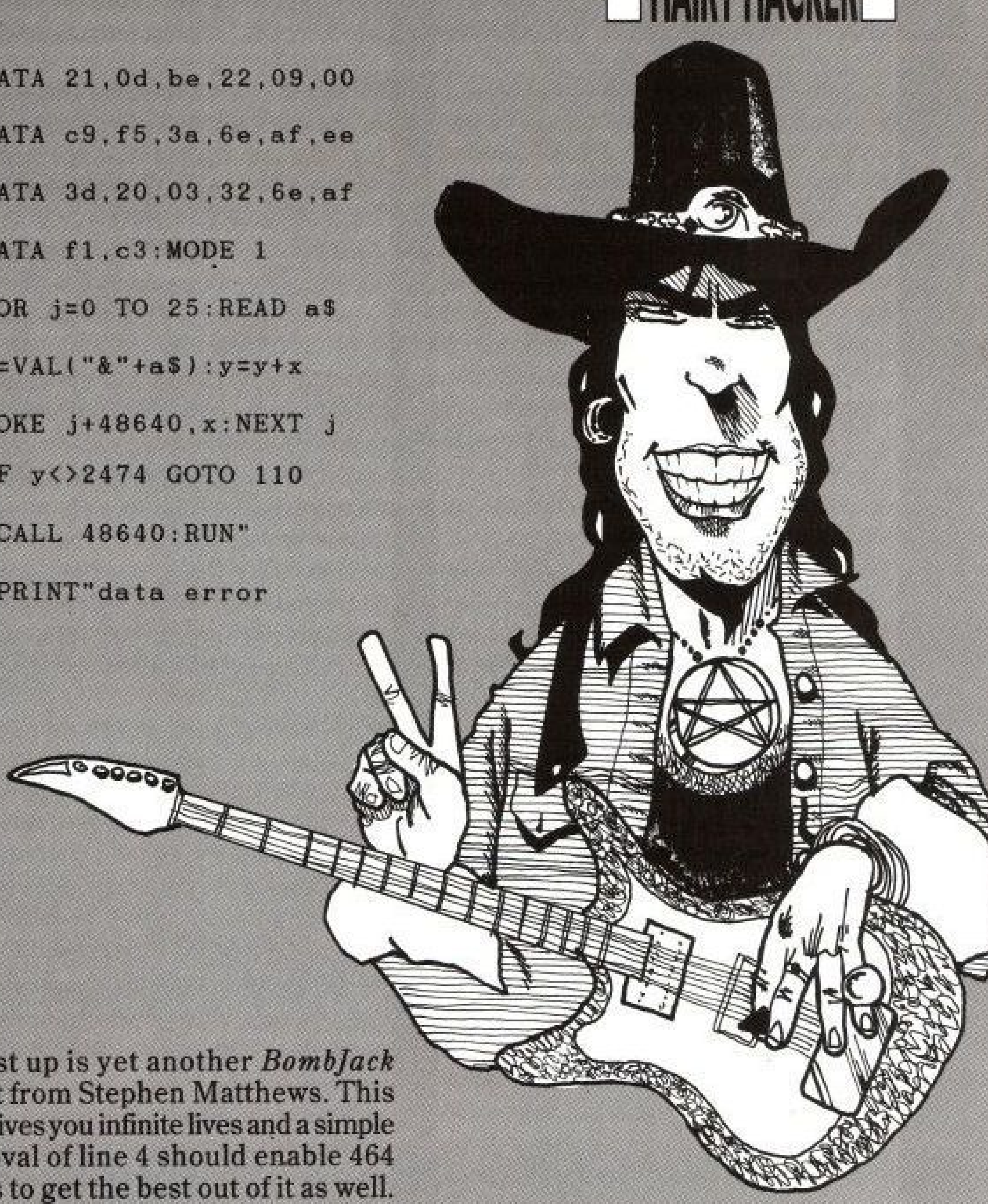
Never mind, it's Smith time! Yep, here are a few more progettes, designed to get you blasting without the hassles of losing those silly lives.

The first one is for Players' *Firelord* offering, giving you infinite lives and guaranteed to boost the fun of this one a thousandfold.

```
1 ' Firelord (Players)
2 ' By Graham Smith
3 ' Infinite lives
4 '
10 DATA 2a,09,00,22,19,be
20 DATA 21,0d,be,22,09,00
30 DATA c9,e5,21,00,c3,22
40 DATA ab,2e,22,31,36,e1
50 DATA c3:MODE 1
60 FOR j=0 TO 24:READ a$
70 x=VAL("&"+a$):y=y+x
80 POKE j+48640,x:NEXT j
90 IF y<>2045 GOTO 110
100 CALL 48640:RUN"
110 PRINT"data error
```

I told you it was fun, didn't I? The second offering is for that brilliant blast, *Havoc*. If you didn't like it the first time around, it was probably because you kept getting zapped at the crucial moment. Plug this little proggie in for the tape blast and see how you like it this time around.

```
1 ' Havoc  (tape)
2 ' By Graham Smith
3 ' Infinite lives
4 '
10 DATA 2a,09,00,22,1a,be
20 DATA 21,0d,be,22,09,00
30 DATA c9,f5,3a,6e,af,ee
40 DATA 3d,20,03,32,6e,af
50 DATA f1,c3:MODE 1
60 FOR j=0 TO 25:READ a$
70 x=VAL("&"+a$):y=y+x
80 POKE j+48640,x:NEXT j
90 IF y<>2474 GOTO 110
100 CALL 48640:RUN"
110 PRINT"data error
```



Last up is yet another *BombJack* cheat from Stephen Matthews. This one gives you infinite lives and a simple removal of line 4 should enable 464 users to get the best out of it as well. This one's pretty straight forward, so type it in and enjoy.

Well, I think that little lot should keep you busy for a while. Remember, if you need or have got specific help on any CPC game, then you know where to send it.

To finish off this month, here's a little rib-tickler I heard recently that is designed to annoy a certain minority and it goes like this: Why do Essex parents keep chickens? To show Essex boys how to walk properly.

There, I told you it would annoy a minority, especially those people who live in... Hey, I live in Essex, now hold on a minute...

```
1 ' BOMB JACK CHEAT
2 ' INFINITE LIVES
3 ' By STEPHEN MATTHEWS  remove line 4 if you use a normal 464!
4 |TAPE:
7 '
10 MEMORY 5999
20 BORDER 0:CLS:FOR f=0 TO 15:INK f,0:NEXT f
30 MODE 0:LOAD "!bjscreen.bin",49152
40 FOR f=0 TO 15:READ a:INK f,a:NEXT f:
50 LOAD "!bjcode.bin",6000
60 POKE &19FD,&0
70 CALL 6000
80 DATA 1,0,26,8,24,13,11,6,15,16,5,2,6,3,20,10
```

An Ideal Repellant



The Bug. Is it the ultimate in hand-held blasting? Jim Johnson investigates.

Joysticks come and joysticks go. That is the way of the world, or so they say. I remember a time when you went to buy a joystick and that is exactly what you got! A stick stuck on a base with a couple of fire buttons thrown in for good measure.

Nowadays, of course, times have changed and, when you enter your local computer shop and ask that ill-fated question,'Could you tell me where your joystick section is, please?' you are, more often than not, directed to the shelf that you first thought was a leftover from the pet shop that previously inhabited the premises.

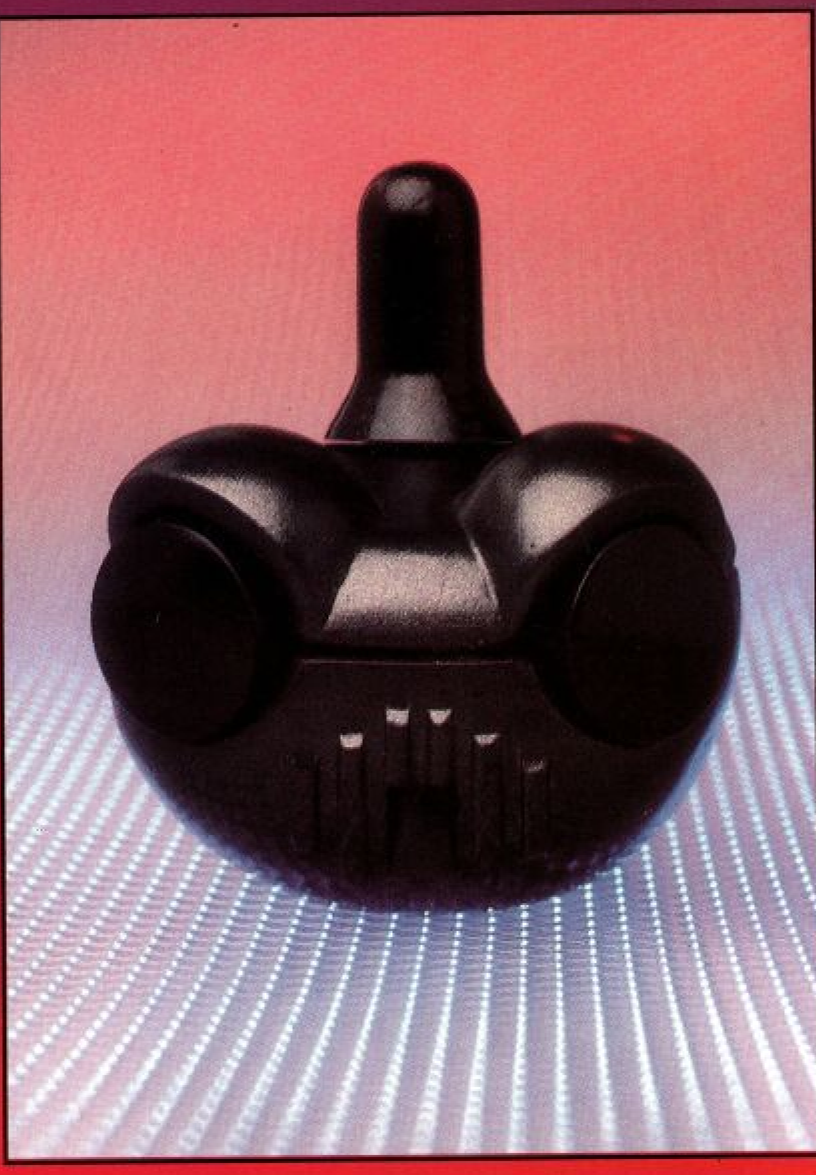
There, staring down at you, is a motley assortment of tortoises, sub-continental looking amphibians and, what's this, a bug?

Gizmos

Yes, the latest in the long line of blasting gizmos is a little offering from Cheetah, that looks something like a well-nourished scarab with a radar beacon on top.

Call me an old-fashioned fuddy-duddy if you will, but I have always been a firm believer in the old school of joysticks and, until I came across this insectile offering, I really did not think that I would be budged into actually enjoying the nouveau trends of the stick manufacturers.

From what I have just written, you may have guessed that I did enjoy playing with the Bug. Indeed I was so impressed, in fact, that it has now replaced my old favourite and is fast becoming my fave testing stick.



So just what is it that makes the Bug so good. Well, for starters, the Bug is just about one of the most ergonomically designed sticks I have ever come across. What that favourite term of the makers means, is that it fits superbly into either of your hands.

The Bug really is tremendously comfortable to use, enabling you to play almost single-handedly. The stick itself is easily accessible to the thumb, with the forefinger left free to do the blasting damage.

Microswitches

With a fire button on either side at the front, the Bug is ideal for both left and right handed players and features an extremely sturdy steel shaft on the stick and high quality microswitches.

Quite apart from that, the little beast looks and feels mean, allowing for long-term playing power without any discomfort.

With autofire built in, do not let the size of the Bug lead you into thinking it is only half a joystick when, in fact, it is probably more like a joystick and a half.

Performance

If there is one drawback to this excellent device, it is that the autofire button cover slips off a little too easily but, as this is purely decorative, it does not detract from performance one bit.

Blasting

All in all, if you want all round blasting power at an affordable price, then throw out your old assumptions and move on to a new plane of stick standards. It shouldn't be too long before a lot of people get the Bug, if you get my meaning.

The Bug
Cheetah
Cost £14.99
ACU Rating 96%

PEDAL POWER

Put your foot down for the next outrageous stick offering.

Well, you've seen the Bug, now it's time to dig out your old race games and give QuickJoy's Footpedal offering a test drive.

Do you remember Chris Price's Black Box? We at ACU gave the lowdown on it quite some time ago and, considering the big response Chris got to the article, it would seem that you gamesters out there like anything that enhances the feel of your latest purchases.

Following on from that excellent foot pedal device, though on a much more commercial vein, is Spectravideo's latest stick innovation, or should I say non-stick innovation.

Basically, the Footpedal is designed to enhance your existing joystick, by taking over three of the normal functions of your regular stick.

What that means for race lovers, is that you can reconfigure the foot pedals to correspond to the accelerator, brake and clutch of your motor, just like the real thing, leaving your handheld to take care of the steering.

On beat-em-ups, or Ninja offerings, the Footpedal can also help to make those flying kicks much more satisfying, it really is that versatile.

The beast itself looks superb, decked out with multicoloured pedals against an ice cool grey surround. Operation is simple as well, with the Footpedal plugging directly into the machine, and your regular joystick plugging into the second lead from the pedals.

Using an extremely simple switch over box, the three pedals can be reconfigured in a trice, simply by pushing the sliding buttons into the correct sequence.

Once that's done, you're on your way to yet more high scores with this brilliantly devised unit. Anything that enhances your playing power has got to be a must for serious gamesters and the Footpedal does exactly that.

Extremely durable, the Footpedal should give you hours of endless fun. A joy to use, as well as being a very practical piece of equipment, this is certainly no gimmick. Featuring industry standard microswitches, you should be able to hammer this one around like there's no tomorrow, and still end up ahead of the opposition.

If you like to get the most out of your games, you need the right equipment, and this is one offering well worth getting your hands on. It's applications really depend on your own preferences, even though it lends itself to some games more than others.

All we need now, to finish the job off, is a proper Race Ace steering wheel. Any offers?

John Taylor





The Footpedal
Spectravideo
Cost: £24.99
ACU Rating 90%

ROUTINE INFORMATION

Glynne Davies tells you how to get hold of your data and how to store it away afterwards.

This month's additions to the *Easydraw2* program are the file handling routines together with a full screen save to memory and display of the files on the disc. Any program which handles data needs a system to allow the information held within the computer to be saved or loaded using a backing store (tape or disc).

In the case of Easydraw2 the information to be saved or loaded is graphical and stored within the computer in a piece of memory reserved for the screen, this screen memory is the top 16K of the computer's memory.

Disc Catalogue

When using a disc drive you can find out what files are on the disc by entering CAT which will display all the names of files on the screen. To obtain a catalogue when the program is running, the key word CAT can still be used but as the information is placed on the screen this will affect your graphics. It is therefore necessary to save the screen before attempting a catalogue of the disc, this is achieved by copying the screen memory (Video RAM) to another section in memory. To copy 16K of memory to another portion of memory can be achieved using Basic's PEEK and POKE but this will be slow so I have included a small piece of machine code to do the job.

Variables

topmem	Maximum memory available to Basic.
store	load/Save toggle. store=1 (SAVE) store =0(LOAD)
ask1$	Either Save or Load

A Look At The Listing

Line 11 Check HIMEM to see if the computer is tape or disc.
Line 16 Lower the memory available to Basic to allow for a 16K screen dump.
Line 310 CTRL+C to Catalogue the disc.
Line 320 CTRL+S to Save a picture/drawing.
Line 330 CTRL+L to Load a picture/drawing.
Line 20030 Change the line in the double-height routine to allow for the change in memory.
Line 24040 Call the machine code to save a picture from screen to RAM.
Line 24060 Do not use the catalogue routine if the computer is a tape only machine.
Line 24110 Replace screen from the memory.
Line 24510 Check and set up for Save or Load.
Line 24530 Save ans$ (the name for the file) as a binary file from the video RAM if store=1. Load ans$ to memory if store=0. NOTE the SAVE routine is ans$ (name of the file), b (Binary type), &5F75 (Start of video RAM), &4000 (Length of file in bytes). (& means the number is in hexadecimal, base 16).

The Listing

Type in the listing below after loading the program EASY4, Easydraw2 so far.

```
11 IF HIMEM>42619 THEN
topmem=42239:ELSE
topmem=40955:REM Is it disc or
tape. Topmem is used by the double
height routine
16 MEMORY 24410:REM Reserve
space for a screen dump to memory
and the character set
18 GOSUB 25000:REM Load
machine code
310 IF INKEY(62)=128 THEN
GOSUB 24000:GOSUB 24100:REM
CTRL+C to Save to memory call
24411, cat the disc and then return
screen from memory
320 IF INKEY(60)=128 THEN
store=1:GOSUB 24000:GOSUB
24500:GOSUB 24100:REM CTRL+S
to Save Screen to memory
330 IF INKEY(36)=128 THEN
GOSUB 24000:GOSUB
24500:GOSUB 24100;REM CTRL+L
to Load a Screen to memory
20030 p=PEEK(topmem+(8*(pk-
32))+set):REM set p to the byte
24000 REM Save the screen to
memory and cat the disc, replace the
screen
24010 GOSUB 11000:GOSUB
12000:REM Reset the screen to
MOVE
24020 CLS:REM Remove the top line
24030 GOSUB 5070:REM Remove
the cursor
24040 CALL 24411:REM Use the
Machine code to save the screen
24050 WINDOW 1,80,1,25:REM
Large window
24060 CLS:IF topmem=42239 THEN
RETURN:REM If the machine is tape
only do not catalogue
24070 FOR n=1 TO 20:CALL
&BB1B:NEXT:REM Flus the buffer
24080 CAT
24090 PRINT "Press any key" :CALL
&BB18
24095 RETURN:REM Allow for
LOAD and SAVE
24100 WINDOW 1,80,1,1:REM
Replace status window
24110 CALL 24423:REM Replace
Screen
24120 GOSUB 12000
24130 GOSUB 5070:REM replace
cursor
24140 RETURN
24500 REM Load and Save Screen
Pictures
24510 IF store=1 THEN ask1$="Save
":ELSE ask1$="Load "
24520
str=1:xx=12:=8:ask$=ask1$+"the file
called":GOSUB 3000:REM Use the
input routine
24530 IF store=1 THEN SAVE
ans$,b,&5F75,&4000:ELSE LOAD
ans$,&5F75
24540 store=0
24550 RETURN
25000 REM *** machine code for
screen dump ***
25010 FOR n=24411 TO 24434
25020 READ x
25030 POKE n,x
25040 NEXT n
25050 RETURN
25060 DATA
1,0,64,33,0,192,17,117,95,237,176,201
25070 DATA
1,0,64,33,117,95,17,0,192,237,176,201
```

Try drawing a picture and saving it, catalogue the disc and load the picture back from disc.

FILLING AN ENCLOSED AREA PAINT

Paint is a routine to fill an enclosed shape, the shape must be regular and enclosed on the right and left side of the cursor. Because of all the checking required within this routine the speed

of the fill is slow, but due to a POKE to the computer's drawing routine 245 patterns are available. This routine would need to be written in machine code for speed, the basic version here demonstrates the principle. To use the routine, locate the cursor within the shape, press P and enter the required pattern number.

Considerations
1) As this is likely to be slow there must be a way of stopping the routine.
2) Each pixel to the left of the cursor must be checked until a lit pixel is found this is the boundary. This is repeated on the right of the cursor.
3) Once two lit pixels are found a line can be drawn between them.
4) The routine must check for lit pixels above and below the cursor for the vertical boundaries.
5) The routine will search for a lit pixel below the cursor to start with. The fill will then fill from the bottom upwards.

Variables

xser	X search position.
yser	Y search position.
left%	Distance moved from the cursor left. (An integar is used to speed up the search.)
right%	Distance moved from the cursor right.
stripe	The lines drawn when Poked with a number produces a striped effect. The variable stripe is used to change the line type on alternative lines forming a pattern.

A Look at the Listing
Line 340 Press P for the paint Pattern
line 4025 If Enter is pressed Fill in as a solid. NOTE the keyword FILL is used, this is only available on the 664 and 6128. For 464 remove part of the line :FILL 1:GOSUB 5070:RETURN
Also note that the POKE address will need to be changed on line 4197.
Line 4026 Restrict the Poke number to 245 to allow a change of line.
Line 4050 The TEST keyword looks at a pixel at co-ordinates x and y and returns the present colour of that pixel (the paper colour is 0 and the pen colour is 1). This forms a loop until a lit pixel is found.
Line 4096 If S (Stop) is pressed place a lit pixel above the cursor. This will stop the routine.
Line 4110 A loop to move one pixel left until a lit pixel is found.
Line 4150 As above but to the right.
Line 4195 Make stripe 10 or 0
Line 4197 POKE the number into the systems line drawing routine with alternate lines increased by 10.
Line 4200 Draw the line.
Line 4207 Set a pixel to colour 1 if the screen boundary is found.

The Listing (Ensure the complete listing to date is in memory)

```
340 IN INKEY(27)=0 THEN GOSUB
11000:mde$="PAINT":GOSUV
12000:GOSUB 4000:GOSUB
11000:GOSUB 12000
3990 REM
*************************
4000 REM Paint an enclosed shape
4010 GOSUB 5070:REM remove
cursor
4020 xx=12:=3:ask$="Please Enter
the style number, Enter for
solid":str=0:GOSUB 3000:REM
Numbers between 1 and 255 paint in
vertical stripes
4025 IF VAL(ans$)<1 THEN
pke=255:FILL 1:GOSUB
5070:RETURN:ELSE
pke=VAL(ans$):REM *** 464 *** Fill
will not work on the 464 therefore
remove :FILL 1:GOSUB 5070:RE-
TURN:
4026 IF pke>245 AND pke<255
THEN pke=245
4030 REM search for the bottom
4040 xser=x:yser=Y
4050 WHILE TEST(xser,yser)=
0:REM check  for a lit pixel
4060 yser=yser-2
4070 IF yser<3 THEN PLOT
xser,yser,1:REM if no pixels exist
create one at the bottom
4075 WEND
4077 LOCATE 12,1:PRINT "Hold
down S to stop, Release on sound"
4080 REM Move up, check and draw
line
4085 yser=yser+2
4090 WHILE TEST(xser,yser)=0
4095 left%=0:right%=0
4096 IF INKEY(60)=0 THEN PRINT
CHR$(7):PLOT xser,yser+2,1:REM
Stop the routine if S is pressed
4100 REM find pixel to the left
4110 WHILE TEST(xser-
left%,yser)=0
4120 left%=left%+1
4130 IF xser-left%<1 THEN PLOT
xser-left%,yser,1
4140 WEND
4150 REM find pixel to the right
4160 WHILE TEST(xser+right%,
yser)=0
4170 right%=right%+1
4180 IF xser+right%>638 THEN
PLOT xser+right%,yser,1
4190 WEND
4195 IF pke<>255 THEN
stripe=(stripe+10) MOD 20:ELSE
stripe=0
4197 POKE &B6A3,pke+stripe:REM
POKE &B338,pke+stripe for *** 464
*** owners
4200 MOVE xser-left%+1,yser:DRAW
xser+right%-1,yser
4205 yser=yser+2
4207 IF yser>381 THEN PLOT
xser,yser,1:REM stop the upward
flow
4120 WEND
4215 GOSUB 5070:REM Replace
cursor
4220 RETURN
```

Save the listing as EASY5. That's it until next month's shape routine, a system to memorise a shape, enlarge or shrink it and save a collection of shapes to disc or tape for future use.

If you missed the previous months, this is the listing EASY4.

```
10 REM EASTDRAW2
15 SYMBOL AFTER 32
20 REM Variables x y (co-ordinates)
jump (cursor move distance)
21 REM variables ip (ink pen) ib (ink
border/paper) d (display) mde$
(mode selected)
23 REM variable beam (leave line if
beam is on)
24 REM Variable ele (Elastic band
switch) xf,yf (origin for Elastic band)
25 REM Variables ans$ (Input string)
xx (Input position) (Input length) str
(string if 1 numeric if 0)
26 REM Variables angle (Arc angle) r
(radius)
28 REM variables rub (rubout
variable) origx,origy (original x and
y)
29 REM Variables side (amount of
sides in shape) sa (Start angle of
shape)
40 x=320:y=200: jump=10:ip= 13:ib=
0:mde$="MOVE"
45 INK 1,ip:INK 0,ib:BORDER ib
50 MODE 2:REM 640x200 graphics
52 WINDOW 1,79,1,1:ORIGIN
0,0,0,640,384,0:GOSUB 12000:REM
Set up a text window (window) to be
the top line. Set up a graphics win-
dow (origin) for the remaining
screen
60 GOSUB 5070:REM draw cursor
70 WHILE trip=0
80 REM Remove keypress for speed
90 GOSUB 5000:REM Cursor move
100 IF INKEY(53)=128 THEN
ip=(ip+1) MOD 27:INK 1,ip:IF ip=ib
THEN ip=ip+1:INK 1,ip:REM If
CTRL+F are pressed change the
Foreground colour
110 IF INKEY(54)=128 THEN
ib=(ib+1) MOD 27:INK 0,ib:BORDER
```

```
ib:IF ib=ip THEN ib=ib+1:INK
0,ib:BORDER ib:REM If CTRL+B are
pressed change the Background
colour and the Border colour
120 IF INKEY(61)=128 THEN
d=(d+1) MOD 2:LOCATE
12,1:PRINT SPACE$(16);:REM If
CTRL+D are pressed switch on x,y
Display
130 IF d=1 THEN LOCATE
12,1:PRINT SPACE$(16);: LOCATE
12,1:PRINT "X=";x;" Y=";y;:REM
Display X and Y
140 IF INKEY(50)=128 THEN
GOSUB 5070:x=320:y=200:GOSUB
5070:IF d=1 THEN LOCATE
12,1:PRINT "X=";x;" Y=;y;:REM Reset
X to 320 and Y to 200
150 IF INKEY(54)=0 THEN GOSUB
11000:beam=1:a=x:b=y:GOSUB
1200:REM Reset all the function
variables to zero (line 11000) and
Reprint status line
160 IF beam=1 THEN GOSUB
4500:a=x:b=y
170 IF INKEY(38)=0 THEN GOSUB
11000:GOSUB 12000
180 IF INKEY(58)=0 THEN GOSUB
11000:set=0:mde$="ELASTIC":ele=1:GOSUB
12000:REM Press E to switch on
Elastic band F to Fix a line
190 IF ele=1 THEN GOSUB 6000
200 IF INKEY(53)=0 AND ele=1
AND t1=0 THEN
a=xf:b=yf:set=0:GOSUB 4500:REM
Press F to Fix the line from Elastic
band
210 IF INKEY(59)=160 THEN
CLG:GOSUB 5070:REM Press CTRL
+ SHIFT + W to clear screen and
replace cursor
220 IF INKEY(45)=0 THEN
str=0:xx=12:ask$="PLEASE ENTER
THE JUMP LENGTH"l:=3:GOSUB
3000:jump=VAL(ans$):GOSUB
12000:REM Press J to change jump
size. This is numeric and the str
variable is set to 0. (str xx ask$ and 1
are all needed for the Input routine.
230 IF INKEY(51=0) AND text=0
THEN mde$="TEXT":GOSUB
12000:xx=12:str=1:ask$="TEXT=":l=40:GOSUB
3000:IF LEN(ans$)>0 THEN GOSUB
11000:text=1:texl=8:n$=ans$:hig=16:GOSUB
5100
240 IF INKEY(53)=0 AND text=1
THEN GOSUB 2000:REM Press F to
Fix the Text in position
250 IF text=1 THEN GOSUB 15000
260 IF text=1 AND INKEY(51)=0
THEN tms=(tms+1) MOD
2:texl=8:hig=16:IF tms=1 THEN
texl=16:hig=32
270 IF INKEY(69)=0 THEN GOSUB
11000:mde$="ARC":GOSUB
12000:GOSUB 10000:GOSUB
11000:GOSUB 12000
280 IF INKEY(50)=0 THEN GOSUB
11000:rub=1:mde$="RUBBER":GOSUB
12000
290 IF rub=1 THEN GOSUB 16000
300 IF INKEY(62)=0 THEN GOSUB
11000:mde$="CIRCLE":GOSUB
12000:GOSUB 7000:GOSUB
11000:GOSUB 12000:REM Press C
for Circle/Shape routine
500 WEND
2000 REM Position text
2010 TAG:REM Set the text at the
graphics position
2020 IF hig=32 THEN GOSUB 20000
ELSE PRINT n$;:REM Choose
Double or single
2030 TAGOFF:REM Switch back to
normal text
2040 RETURN
3000 REM Input routine
3005 FOR n=1 TO 20:CALL
&BB1B:NEXT:REM Flush the
keyboard buffer
3010 ans$=" ":GOSUB 12000:REM
Reset ans$ to null and clear status
line
3020 LOCATE xx,1:PRINT ask$+"
"+CHR$(246)+SPACE$(1)+CHR$(247);:REM
Print the question and answer space
3025 IF str=0 THEN
liml=47:lim2=58:ELSE
lim1=31:lim2=127
3030 k$="
"xx=xx+LEN(ask$)+2:REM reset xx
to answer position
3040 WHILE ASC(k$)<>13:REM
Loop until Enter is pressed
3050 k$=" ":WHILE k$="
":k$=INKEY$:WEND:REM Loop to
wait for keypress
3060 IF ASC(k$)>lim1 AND
ASC(k$)<lim2 AND LEN(ans$)<1
THEN ans$=ans$+k$:REM Accept
any keyboard character into the
string if the string is below 1. If str=0
then numbers only
3070 IF ASC(k$)=127 AND
LEN(ans$)>0 THEN
ans$=LEFT$(ans$,LEN(ans$)-
1):REM If DEL is pressed remove a
character if one exists
3080 LOCATE xx,1:PRINT
SPACE$(1);:LOCATE xx,1:PRINT
ans$;:REM Remove old string and
replace with the new string
3090 WEND
3100 GOSUB 12000:REM remove
information
3110 RETURN
4500 REM draw line (BEAM)
4510 GOSUB 5070:REM Remove
cursor
4520 MOVE a,b
4530 DRAW x,y,1
4540 GOSUB 5070:REM Replace
cursor
4550 RETURN
4990 REM
*************************
5000 REM Cursor move
5010 IF INKEY (1)=0 THEN GOSUB
5070:x=x+jump:GOSUB 5070
5020 IF INKEY(8)=0 THEN GOSUB
5070:x=x-jump:GOSUB 5070
5030 IF INKEY(2)=0 THEN GOSUB
5070:y=y-jump:GOSUB 5070
5040 IF INKEY(0)=0 THEN GOSUB
5070:y=y+jump:GOSUB 5070
5060 RETURN
5065 REM
*************************
5070 REM Draw cursor
5080 IF text=1 THEN RETURN
5100 LOCATE 1,1:PRINT
CHR$(23)+CHR$(1):REM set xor
mode.
5110 MOVE x-10,y:DRAW x+10,y,1
5120 MOVE x,y-10:DRAW x,y+10,1
5130 LOCATE 1,1:PRINT
CHR$(23)+CHR$(0):REM Reset
graphics to normal
5140 RETURN
6000 REM Elastic Band
6010 LOCATE 1,1:PRINT
CHR$(23)+CHR$(1):REM XOR mode
6020 IF set=0 THEN
xf=x:yf=y:set=1:MOVE xf,yf:DRAW
x,y,1:REM Fix xf and yf when set=0
6030 MOVE xf,yf:DRAW x,y,1
6040 FOR w=1 TO 10:NEXT;REM a
short pause
6050 DRAW xf,yf,1
6060 LOCATE 1,1:PRINT
CHR$(23)+CHR$(0):REM Normal
Mode
6070 RETURN
7000 REM Circle and Shape routine
7010 IF r=0 THEN r=40
7020 REM Input the horizontal radius
and vertical radius to allow for
ellipses, for circular objects set
radius and press F twice
7030 start=-1:angle=PI/2:LOCATE
12,1:PRINT "Horizontal
Radius":GOSUB 10030:rx=r:REM
Use Arc routine
7040 FOR n=1 TO 20:CALL
&BB1B:NEXT:REM Flush the buffer
7050 LOCATE 12,1:PRINT "Vertical
Radius ":angle=0:GOSUB
10030:ry=r:start=0:REM Use arc
routine
7060 ask$="Enter then amount of
sides or Enter for
circle":xx=12:l=3:str=0:GOSUB
3000:side=VAL(ans$)
7070 IF side=0 THEN side=100:REM
If Enter is pressed set up a 100 part
circle.
7080 IF side<16 THEN ask$:l="Enter
the start angle 0-
360":xx=12:1=3:str=0:GOSUB
3000:sa=VAL(ans$):sa=2*PI*(sa/360)
7090 GOSUB 5070:REM remove
cursor
7100 MOVE x+SIN(-
PI+sa)*rx,y+COS(-PI+sa)*ry:REM
```

```
move to the bottom of shape
7110 FOR n=-PI+sa TO PI+0.2+sa
STEP (2*PI)/side:REM Calculate the
positions for a circle of (side) sides
7120 DRAW
x+SIN(n)*rx,y+COS(n)*ry,1:REM
Draw a straight line between posi-
tions
7130 NEXT
7140 GOSUB 5070:REM replace
cursor
7150 RETURN
7160 IF INKEY(53)=0 AND start=-1
THEN arc=1
7170 IF start<1 THEN GOSUB
5000:PRINT
CHR$(23)+CHR$(1);:REM cursor
keys
7180 IF start=-1 THEN
arc=0:RETURN:REM Use the Arc
routine but return at this point
10000 REM ARC
10010 angle=0:IF r=0 THEN
r=20:REM Set a radius if none exists
10030 WHILE arc=0
10040 IF INKEY(60)=0 AND start=0
THEN s=angle:xy=1:MOVE
x,y:DRAW x+r*SIN (angle),y+r*
COS(angle), 1:start=1:REM Press S
for the start position of the arc
10050 IF INKEY(53)=0 AND start=1
THEN arc=1:f=angle:REM Press F at
the Finish position of the arc
10055 IF INKEY(53)=0 AND start=-1
THEN arc=1:REM Selection of radius
from the circle routine
10060 IF INKEY(39)=0 THEN
angle=angle-0.05:REM Move the arm
anti clockwise KEY <
10070 IF INKEY(31)=0 THEN
angle=angle+0.05:REM Move the
arm clockwise KEY >
10080 IF INKEY(28)=0 THEN
r=r+4:REM Increase the radius KEY
+
10090 IF INKEY(25)=0 AND r>4
THEN r=r-4:REM Decrease the
radius KEY -
10100 if inkey(37)=0 THEN
xx=12:str=0:l=3:ask$="Enter the
Radius =":GOSUB
3000:r=VAL(ans$):REM Press K to
Key in the Radius
10110 IF start<1 then gosub
5000:PRINT
CHR$(23);CHR$(1);:REM cursor
keys
10120 MOVE x,y
10130 DRAW
x+r*SIN(angle),y+r*COS(angle),1
10140 MOVE x,y
10150 DRAW
x+r*SIN(angle),y+r*COS(angle),1
10160 WEND
10165 IF mde$="CIRCLE" THEN
arc=0:RETURN:REM Return to the
circle routine
10170 IF f<s THEN inc=-0.02 ELSE
inc=0.02
10180 MOVE x,y:DRAW
x+r*SIN(s),y+r*COS(s),1
10190 PRINT CHR$(23)+CHR$(0);
10200 MOVE
x+r*SIN(s),y+r*COS(s)
10210 FOR n=s TO f STEP inc:REM
Draw the ARC
10220 DRAW
x+r*SIN(n),y+r*COS(n),1
10230 NEXT
10240 arc=0:start=0:REM reset
variables
10260 RETURN
11000REM Reset all function vari-
ables to zero
11005 IF text=1 THEN
text=0:GOSUB 5070:REM Switch off
text and replace the cursor
11010
start=0:beam=0:ele=0:fl=0:rub=0:xy=
0:tl=0:tb=0:t= 0:mde$=" MOVE"
11020 RETURN
12000 CLS
12002 IF beam=1 THEN
mde$="BEAM"
12004 IF ele=1 THEN
mde$="ELASTIC"
12006 IF jump=0 THEN jump=1:REM
Ensure jump exists
12010 LOCATE 1,1:PRINT
"Jump=";jump;:REM Distance the
cursor moves
12020 LOCATE 70,1:PRINT
mde$;:REM Working mode selected
12030 IF d=1 THEN LOCATE
12,1:PRINT SPACE$(16);:LOCATE
12,1:PRINT "X=";x;" Y=";y;:REM
Display X and Y
12040 RETURN
15000 REM text box
15005 LOCATE 1,1:PRINT
CHR$(23)+CHR$(1);
15010 MOVE x,y
15020 DRAW
x+LEN(n$)*texl,y,1:DRAW
x+LEN(n$)*texl,y-hig,1:DRAW x,y-
hig,1:DRAW x,y,1
15030 DRAW
x+LEN(n$)*texl,y,1:DRAW
x+LEN(n$)*texl,y-hig,1:DRAW x,y-
hig,1:DRAW x,y,1
15035 LOCATE 1,1:PRINT
CHR$(23)+CHR$(0);
15040 RETURN
16000REM Remove a chosen block
from the screen
16010 LOCATE 1,1:PRINT
CHR$(23)+CHR$(1);
16015 IF start=0 THEN
start=1:origx=x:origy=y
16020 MOVE origx,origy
16030 DRAW x,origy,1:DRAW
x,y,1:DRAW origx,y,1:DRAW
origx,origy,1
16040 DRAW x,origy,1:DRAW
x,y,1:DRAW origx,y,1:DRAW
origx,origy,1
16050 IF INKEY(53)=0 THEN
GOSUB 16100
16060 RETURN
16100 IF x<origx THEN
xs=x:xe=origx:ELSE
xs=origx:xe=x:REM find the XStart
and Xend for the window
16110 IF y<origy THEN
ys=y:ye=origy:ELSE
ys=origy:ye=y:REM find the YStart
and YEnd for the window
16115 GOSUB 5070:REM remove
cursor
16120 ORIGIN xs+4,ys,xs+4,xe-
4,ys,ye:CLG:REM Redefine the
graphics screen and clear the new
window
16130 ORIGIN 0,0,0,640,384,0:REM
Reset graphics screen
16140 GOSUB 5070:REM replace
cursor
16150 RETURN
19990 REM Double height Double
width routine
20000 FOR n=1 TO LEN(n$)
20010 pk=ASC(MID$(n$,n,1))
20020 FOR set=1 TO 8
20030 p=PEEK(HIMEM+(8*(pk-
32))+set):REM set p to the byte
20040 GOSUB 20150:REM Change to
two nibbles (a nibble is half a byte) (4
bits)
20050 NEXT
20060 REM convert the characters
255,254,253,252 into the four quarters
of a block
20070 SYMBOL 255,hb(1),hb (1), hb
(2),hb (2),hb(3),hb (3), hb(4),hb (4)
20080 SYMBOL 254,lb(1), lb (1), lb
(2), lb(2),lb(3),lb(3),lb(4),lb(4)
20090 SYMBOL 253,hb(5)hb(5),hb
(6),hb (6),hb (7),hb (7),hb(8),hb(8)
20100 SYMBOL 252,lb(5),lb(5),lb
(6),lb(6),lb(7),lb (7),lb(8),lb(8)
20110 MOVE x+mov,y:PRINT
CHR$(255);CHR$(254);
20115 MOVE x+mov,y-16:PRINT
CHR$(253),CHR$(252);
20120 mov=mov+16
20130 NEXT
20135 mov=0
20140 RETURN
20150 REM change to two nibbles
20160 lb=p AND 15:a=lb:GOSUB
20190:lb(set)=nn:nn=0
20170 hb=p AND 240:a=hb/
16:GOSUB 20190:hb(set)=nn:nn=0
20180 RETURN
20190 REM change nibbles TO bytes
20200 IF a=0 THEN RETURN
20210 IF a-8>=0 THEN
nn=nn+192:a=a-8
20220 IF a-4>=0 THEN nn=nn+48:
a=a-4
20230 IF a-2>=0 THEN nn=nn+12:
a=a-2
20240 IF a=1 THEN nn=nn+3
20260 RETURN
```

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Name ______________________ BLOCK LETTERS PLEASE

Address ______________________

____

____

______________ Post Code ______________

Tel No: (in case of queries) ______________

I have enclosed my Cheque/Postal Order made payable to

R&PD READER ACCOUNT for £ ________ which includes an additional £2.50 postage and packing per order

Allow 28 days delivery from receipt of order

No claims for loss in transit can be made after 60 days

ALPHA SCROLL



BY DAVID HALL

Here's a little something to include in your latest program that should set it off a treat. Using some clever machine code programming, this gem allows you to create, save and load text onto the screen, and then scroll it across in glorious technicolour.

The text is clear and bold and, if you know anybody who owns a shop, they may even want to use it to show off his or her latest cut-price turnips, or something. Try it and see what you think.

```
10 ' ** ALPHA SCROLL **    By David Hall [F1]
20 ' (C) March 1991 [F2]
30 ' [F3]
40 ' ------ Amstrad CPC version ------ [F4]
50 ' for  AMSTRAD COMPUTER USER [F5]
60 ' [F6]
70 IF HIMEM=9999 THEN 100 [36]
80 SYMBOL AFTER 31 [21]
90 MEMORY 9999 [50]
100 INK 0,0 [27]
110 INK 1,14 [CD]
120 INK 2,16 [F0]
130 INK 3,2 [5E]
140 INK 4,1 [5E]
150 INK 5,3 [7F]
160 INK 5,6 [A2]
170 INK 6,15 [12]
180 INK 7,16 [29]
190 INK 8,26 [3F]
200 BORDER 0 [A5]
210 store=10000 [5E]
220 FOR loop1=1 TO 46 [55]
230 sum=0 [78]
240 READ code$,total [33]
250 FOR loop2=1 TO 24 STEP 2 [00]
260 value=VAL("&"+MID$(code$,loop2,2)) [C2]
270 POKE store,value [DD]
280 sum=sum+value [C7]
290 store=store+1 [8F]
300 NEXT loop2 [AC]
310 IF sum=total THEN 340 [75]
320 PRINT "Error in line ";1120+loop1*10 [28]
330 END [F2]
340 NEXT loop1 [A6]
350 MODE 1 [B6]
360 PEN 3 [4A]
370 PRINT "A L P H A  S C R O L L" [2A]
380 PRINT [32]
```

```
390 PEN 2 [47]
400 PRINT "Type name of file to load or" [46]
410 PRINT "press ENTER to create a message" [31]
420 PRINT [27]
430 PEN 1 [33]
440 LINE INPUT ">....",lname$ [FE]
450 IF lname$="" THEN 480 [40]
460 LOAD lname$,12000 [7B]
470 GOTO 950 [74]
480 x=1 [D1]
490 y=1 [D8]
500 store=12000 [77]
510 MODE 2 [BA]
520 PEN 1 [32]
530 PRINT " ALPHA SCROLL by David Hall - Please "; [5C]
540 PRINT "type your message  ( SPACE LEFT = 20000 )" [11]
550 PRINT " ===== ======  (c) Mar 1990" [CF]
560 PRINT STRING$(80,"*") [D6]
570 LOCATE 1,25 [EB]
580 PRINT STRING$(80,"*"); [F8]
590 WINDOW £1,1,80,4,24 [B7]
600 LOCATE £1,x,y [19]
610 PRINT £1,CHR$(143) [4E]
620 i$=INKEY$ [25]
630 IF i$="" THEN 600 [59]
640 IF i$<>CHR$(127) THEN 690 [E3]
650 LOCATE £1,x,y [23]
660 PRINT £1," " [36]
670 SOUND 4,1000,2 [FD]
680 GOTO 880 [8F]
690 IF i$=CHR$(16) THEN 600 [F8]
700 IF i$<>CHR$(13) AND store<>32000 THEN 760 [C9]
710 CLS [45]
720 PRINT "Type in filename to SAVE or" [4E]
730 PRINT "press ENTER to continue :-"; [2A]
740 LINE INPUT "",sname$ [49]
750 GOTO 950 [73]
760 IF ASC(i$)>180 THEN 850 [67]
770 SOUND 4,100,2 [80]
780 POKE store,ASC(i$)-31 [73]
790 store=store+1 [94]
800 LOCATE £1,x,y [1B]
810 PRINT £1,i$ [0C]
820 x=x+1 [0B]
830 IF x=81 THEN x=1:y=y+1 [81]
840 IF y=21 THEN PRINT £1:y=y-1 [B2]
850 LOCATE 71,1 [E3]
860 PRINT 32000-store [65]
870 GOTO 600 [23]
880 IF x=1 AND y=1 THEN 600 [FF]
890 x=x-1 [29]
900 IF x=0 THEN x=80:y=y-1 [B3]
910 IF y=0 THEN y=1:x=1 [D4]
920 POKE store,1 [6E]
930 store=store-1 [AA]
940 GOTO 850 [69]
950 MODE 0 [B2]
960 FOR loop=store TO store+22 [09]
970 POKE loop,1 [DE]
980 NEXT loop [E6]
```



```
990 POKE loop,255 [06]
1000 IF sname$="" THEN 1020 [F2]
1010 SAVE sname$,b,12000,store-11960 [C5]
1020 CLS [85]
1030 INK 2,1 [3E]
1040 p=10 [50]
1050 FOR t=1 TO 640 STEP 4 [A9]
1060 PLOT t,398,p:DRAWR 0,-150:MOVER 0,-100:DRAWR 0,-180 [AA]
1070 p=p+1:IF p=16 THEN p=10 [48]
1080 NEXT [04]
1090 p=10:CALL 10000 [04]
1100 INK p,1:CALL &BD19:CALL 10006 [50]
1110 INK p,0:p=p+1:IF p=16 THEN p=10 [36]
1120 GOTO 1100 [1A]
1130 DATA CD2027CD3B27CDBE27CD8D27,1398 [CC]
1140 DATA CD6D27C921F47E360011F57E,1399 [B3]
1150 DATA 018007EDB03E80326F9D21DF,1313 [1C]
1160 DATA 2E226D9DC30C28DD21D08406,1193 [23]
1170 DATA 0BC5DDE52135281150000E20,927 [3D]
1180 DATA 06087EDD7700DD232310F7DD,1255 [8D]
1190 DATA 190D20F0DDE1110800DD19C1,1220 [51]
1200 DATA 10DB21010022409CC91120C3,968 [4E]
1210 DATA 2188900620C5D5015000EDB0,1255 [F5]
1220 DATA D1EB7CC6086730040150C009,1211 [80]
1230 DATA EBC110E9C921D084ED5B409C,1799 [48]
1240 DATA 191188903E20015000EDB001,911 [E4]
1250 DATA 0800093D20F411F47E210893,929 [B8]
1260 DATA 0E1006501AFE002801772313,610 [D1]
1270 DATA 10F60D20F1C93A409C3DE607,1325 [C2]
1280 DATA 32409C21F57E11F47E010005,1067 [6F]
1290 DATA EDB021437FDD212D280E08ED,1238 [8F]
1300 DATA 5B6B9D1A473A6F9DA0FE0028,1232 [25]
1310 DATA 03DD7E00D511500006027719,812 [7E]
1320 DATA 10FCD113DD230D20E23A6F9D,1349 [92]
1330 DATA 1F326F9DFE00C03E80326F9D,1303 [73]
1340 DATA 2A6D9D23226D9D7EFEFF2007,1317 [D0]
1350 DATA 21E02E226D9D7E11080021F4,1031 [C5]
1360 DATA 9F471910FD226B9DC9F03CFC,1575 [DF]
1370 DATA 03FC3CF0F0CC883030303064,1427 [A5]
1380 DATA CC0C2000000000440C0C2030,420 [2D]
1390 DATA 303030640C0C200000000044,368 [13]
1400 DATA 0C0C2000000000440C302000,216 [57]
1410 DATA 000000443000000044880000,320 [F7]
1420 DATA 000000008844000000080044,280 [1B]
1430 DATA 000088000404008800004400,348 [32]
1440 DATA 080044000000000400008800,216 [5E]
1450 DATA 000000080044000800000400,88 [68]
1460 DATA 888800040000080044000000,352 [BC]
1470 DATA 080400000000000004000000,16 [A4]
1480 DATA 000000000008000000000000,8 [5D]
1490 DATA 080400000020000400000800,56 [5C]
1500 DATA 101000080000040020000400,80 [65]
1510 DATA 000000100000080000000020,56 [2F]
1520 DATA 000400200000100008080010,84 [A3]
1530 DATA 000020000400000020100000,84 [05]
1540 DATA 000000001020000000CC8800,388 [8D]
1550 DATA 00000044CC0C200000000044,384 [EF]
1560 DATA 0C0C2000000000440C0C2030,228 [E2]
1570 DATA 303030640C0C200000000044,368 [11]
1580 DATA 0C3020303030306430000000,432 [12]
```

THE PD EXPERI

What is it really like to run a PD library? Alan Scully explains...

In the majority of cases, PD libraries are set up as a quick way of making money. It is therefore not surprising to find that such libraries have often closed within a few months. Why? Because the librarians under-estimate the work involved.

PD libraries are relatively easy to set up; all you need is a computer and cassette deck or disk drive – I'll presume you've got those already (otherwise why would you be reading this magazine??). Now you need some software. Your first instinct will probably be to send orders to the established PD libraries, and by all means do so. Remember one thing though, you're eventually going to have to attract customers, probably the same customers that use the other libraries, so you're not going to get very far if your list is just made up from their software! Therefore, while you're waiting for software to arrive, and for publicity (see later), write your own programs – and loads of them! Once you have started writing your own stuff you can then swap it with other libraries to boost your range even more.

Alright, so you've got your software and you're ready to go – or are you? You're going to need to produce a list (catalogue) of your wares, how can people order from you without knowing what you have?! Decide on whether to have your list photocopied (this can be costly) or on cassette/disk (very time consuming although much cheaper if the customer supplies the disk). It is at this stage you will need to decide how much to charge. Keep it as low as you can, but not so low that you receive more orders than you can possibly handle! The 'average' copy charge for a disk full of software (ie both sides) is £1, however some libraries charge as much as £6 (including disk)!!

Finally you're ready for the next step – publicity. This is your last chance to change your mind, so think carefully before progressing any further. If you do decide to go on (more fool you) then take things slowly. It is a very bad idea to go straight to the glossy magazines. Both Amstrad Action and Amstead Computer User write their magazines five/six weeks before publication, so if you do manage to get publicity in both magazines (and because of the high failure rate with new libraries this is very unlikely), you could find yourself with more orders than you have time to do. TOO LATE! It will be at least two months before the magazines can tell their readers that you are closed! So take things easy, hit the fanzines first – Print-Out, Playmates, CPC Domain and Artificial Intelligence are good starts (see past issues of ACU for the addresses, the address for CPC Domain



ENCE

is in this issue). After a few months in the fanzines, place small ads in ACU and AA. When the ads appear you should find you will receive more orders than before.

After about a month, it's time to make the final decision – do you go for more publicity? If the number of orders you are receiving keeps you busy then the answer is no, just keep with the fanzines and placing small ads. If you feel that you could handle a lot more orders, and have the time to spare, then prepare a press release with full details of your library including prices, range, history and how to obtain more details. Once you've done that send a copy to the news pages of ACU and AA or send it direct to Bob Adams on the PD Scene if you want an overview of your wares.

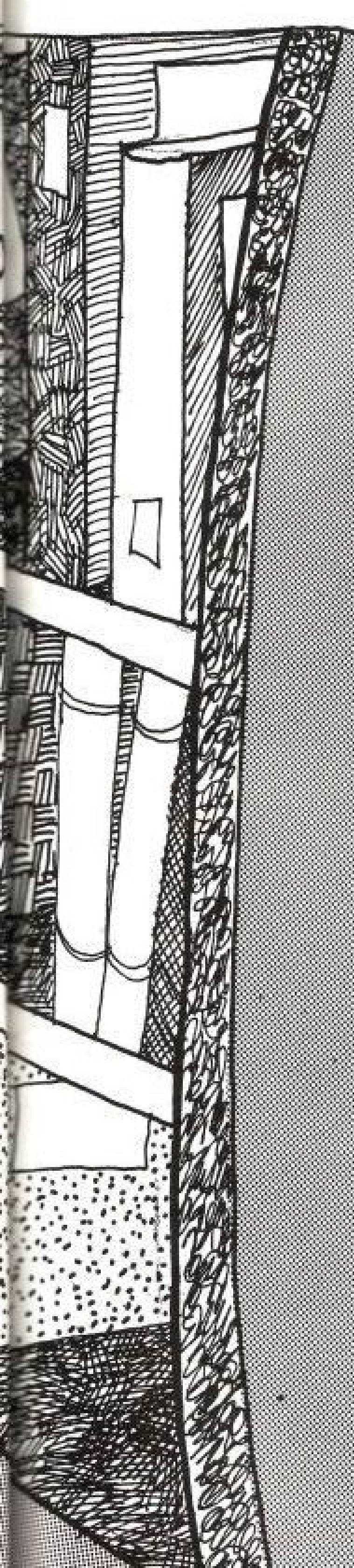
I mentioned earlier that you only need a really basic computer set up to start a PD library and, while this is true, if you do decide to continue running the library it is advisable to expand as soon as possible. If you're running a cassette service invest in a first disk drive, then using a suitable piece of software, you can duplicate cassettes by copying from disk (Goldmark Systems provide a program called TAPEDUMP which will do this). As well as saving up to 50% of copying time you'll also have access to much more PD software. There are very few (if any) cassette PD libraries, any that do start would have my full support.

If you're running a disk service then think seriously about buying a second disk drive, they make life so much easier! You can buy 3.5" drives for under £70 these days, and I bought my 5.25" drive for only £40 (using an MP2 modulator to power it!). You'll also find that 3.5" and 5.25" disks are so much cheaper, helping to reduce your costs. Also, if you're using Disckit for copying, buy a decent disk copier. There are PD copiers around, the best are the JL disk copiers, however Nirvana will always be the one for me. It's fast, available on ROM and uses any extra memory that you may have. Contact GOLDMARK SYSTEMS for more details.

The final piece of hardware that you should get is a printer. While it is not essential that you have one it will come in useful for letters, stock-lists and for PD programs (eg Pagemaker Plus) that require use of a printer. Any Epson compatible printer will do, but it is best to go for a 9-pin (most PD programs are written with 9-pin printers in mind and so don't work properly with 24-pin printers).

I hope this article has given you an insight into the running of a PD library, and if you've been thinking of setting one up, I hope you will find it of some use. Myself, I have been running a PD library for two years, first on cassette, then on disk, and now open only to subscribers of CPC Domain. If you need more help then please do not hesitate to write to me, the address is as per CPC Domain.

Good luck, you'll probable need it!



USEFUL ADDRESSES

GOLDMARK SYSTEMS
51 Comet Road
Hatfield
Hertfordshire
AL10 0SY
Suppliers of Nirvana and Tapedump

PRINT-OUT
8 Maze Green Road
Bishop's Stortford
Hertfordshire
CM23 2PJ
Fanzine

PLAYMATES
37 Fairfield Way
Barnet
Herts
EN5 2BQ
Fanzine

CPC DOMAIN
119 Laurel Drive
East Kilbride
Glasgow
G75 9JG
Disk based fanzine

ARTIFICIAL INTELLIGENCE
19 Lee Street
Littletown
Leversedge
WF15 6DZ
Fanzine

MEDIAVALUE
Windsor Business Centre
Vansittart Estate
Windsor
Berkshire SL4 1SE
Cheap disks plus disk labels, delivery by return of post

ABLE-LABELS
Steeleprint Ltd
Earls Barton
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EXCHANGE AND MART
from the newsagent!
Vital source for finding suppliers of cheap cassettes, leaflet printers, rubber stamps etc.

PRINTING FOR BEGINNERS

The new Panasonic KX-P1170 gets the ACU going over. Even Ziggy could get to grips with this one.

In this day and age, most of us must be fairly conversant with the ins and outs of printer usage. We should all, hopefully, know that paper tractors don't necessarily mean Origami plough pullers and, that parallel ports aren't really dry docks for sister ships.

That aside, it is still a pleasant surprise to open up the packaging of your new toy to find easily comprehendable and straightforward operating instructions, allowing you to connect up your cables and get to work without too much disruption.

With that in mind, your first encounter with Panasonic's new 9-pin beast, the KX-P1170, should be a positive delight coming, as it does, with a simple quick reference guide, to hold your hand during the setting up process.

Compactness

The first thing that will probably hit you is the machine's compactness. Obviously, desk space is a major consideration when purchasing a printer and, with specifications of 425mm W X 340 D X 130 H, the P-1170 should fit snugly into most corners, leaving you plenty of space to browse through your operating instructions and reference guide.

On top of the size, the machine certainly looks robust and, considering the amount of bashing it got in the ACU office, it more than lives up to appearances, the well-proven print mechanism and construction making it ideal for prolonged use in the office, or in educational institutions.

So much for first impressions. What about the performance? Well, with print speeds of up to 192 cps in draft, the P-1170 is certainly no slouch in Elite, whilst the 38 cps offered in Near Letter



Quality is perfectly acceptable for a 9-pin offering.

These are the figures quoted by Panasonic themselves, but in practice the machine was not too far off these figures, so print users requiring high speed output could do far worse than to take this beast on board.

Ergonomic design, a term more frequently used in the manufacture of joysticks, is also a feature of this squat

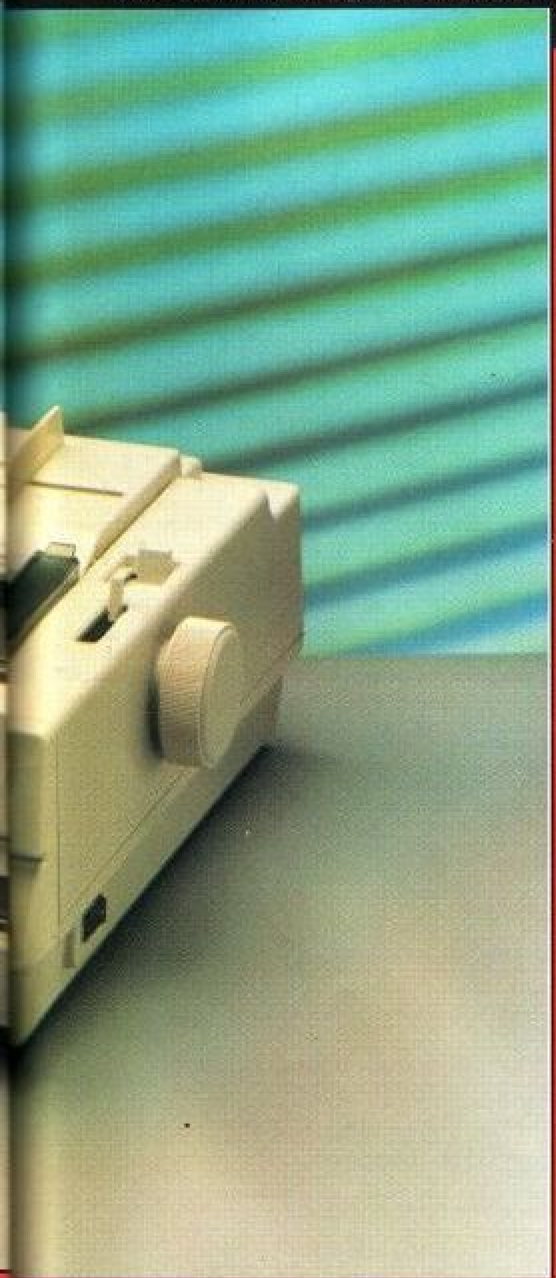
print machine. What this means is that all of the features have been specifically dfevised for ease of usage. In other words, the P-1170 is extremely user friendly.

All of the operating controls are situated within easy reach on either the front, or the top of the machine, including fonts, pitch, form length, form feed, line feed, hex dump, self test and all of the usual press button features of the 9-pin world.

Convenience

For extra convenience, the power cord and printer cable are also situated well out of the way of the paper paths, to avoid unfortunate foul-ups.

Cutting an edge on the opposition is becoming more and more difficult these days, with most 9-pins offering a vast array of features as standard. The P-1170 is certainly no exception, with paper handling options comparable with the more expensive machines.



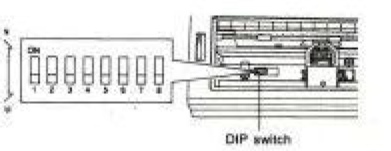
You can park your paper, choose from push or pull tractor for extra versatility and feed from the top, the back or the bottom, depending on your workdesk layout.

What this means is that, for the busy office, you can be feeding continuous paper from the rear, label and multi-part stationary from the bottom and single sheets and envelopes through the top feed.

Setting the DIP Switches

...n the power off before setting the DIP switches.

...e DIP switches allow the user to set certain operating conditions ...the printer.



International Character Set

SW6	SW7	SW8	INTERNATIONAL CHARACTER SET
OFF	OFF	OFF	USA
ON	OFF	OFF	FRANCE
OFF	ON	OFF	GERMANY
ON	ON	OFF	ENGLAND
OFF	OFF	ON	DENMARK 1
ON	OFF	ON	SWEDEN
OFF	ON	ON	ITALY
ON	ON	ON	SPAIN 1

DIP switch

SWITCH NUMBER	FUNCTION	ON	OFF	POSITION WHEN SHIPPED
SW1	Printer Mode	IBM Mode (Proprinter II)	Standard Mode (FX-86e/FX-800)	OFF
SW2	Skip Perforation	1 inch (25.4 mm) skip	No skip	OFF
SW3	Automatic LF	CR + LF	CR only	OFF
SW4	Cut Sheet Feeder (Option)	Installed	Not installed	OFF
SW5	7/8 bit	7 bit	8 bit	OFF
SW6	Character Set	SW1=ON: See IBM Proprinter II Character Set Chart; SW1=OFF: See International Character Set Chart		OFF
SW7				OFF
SW8				OFF

When DIP SW1 is ON (IBM Mode)

SWITCH NUMBER	FUNCTION	ON	OFF
SW6	Character Set	Set 2	Set 1
SW7	Automatic CR	Causes Auto CR on LF, VT, ESC+J	Prevents Auto CR on LF, VT, ESC+J
SW8	Zero font	Zero slash Ø	Zero 0

Not having to disconnect your continuous paper supply has its obvious advantages, while the choices on offer allow for last minute changes of plans as to your printing requirements, without the hassle of paper juggling.

The fonts included as standard with the machine include draft, as well as Courier, Prestige, Bold PS and Sans Serif as the near letter quality offerings, with print sizes ranging from five to 20 cpi, along with proportional spacing.

According to the specs., the maximum amount of available styles is as high as 3,400, created by a combination of fonts, character sizes and the enhancement modes such as italics, double height, double strike, emphasised, underline, subscript and superscript.

Now, if any of you out there want to sit down and put that to the test, good luck to you. I think I would prefer to take it as read that there are possibly more combinations than most users would ever be able to make use of in their daily routine of usage.

The graphics capabilities, at 240 X 216 dpi, are not the best on the market, but that certainly does not detract from the machine's capabilities and will not affect your output to any extent.

As for compatibility, the P-1170 features both an Epson and an IBM emulation, as with most printers on the market. In this instance, the emulations are Epson FX-86e/FX-800 and IBm Proprinter II, making the machine compatible with the great majority of software packages on the market. On the hardware end, the standard Centronics parallel, optional RS-232C serial and Appletalk interfaces give the P-1170 better compatibility than most comparable offerings, and should cause you no grief at all during the set-up phase.

In short, having purchased the P-1170, you should have, sitting in front of you, a no-nonsense, durable, hard-working and extremely reliable workhorse. The paper handling is excellent, while the results are clean and should really be seen to be properly appreciated.

Cutting edge

What gives Panasonic's new offering that cutting edge, is probably its ease of use. Every conceivable setting that you might need to get yourself up and running is clearly outlined and illustrated on the quick reference guide, including those bothersome dip-switch settings which cause so much grief to novice users (see diagram).

So how much do you have to fork out to acquire this style of printing professionalism? Under £200. With a recommended retail price of £199 plus VAT, you should be able to pick up this beauty for under the magic £200 mark if you hunt around and, for that kind of money, you will be getting an awful lot of power to your printing elbow.

The most dazzling piece of machinery on the market it is not but, for those of you not in the more advanced user group, you will be hard put to purchase a machine with better performance outlines to help you get the best out of your computer.

The P-1170 really is a doddle to use and, if you have been a little scared to alter your settings and see what else you can achieve with your equipment, then purchasing this beast should open up new horizons for you.

KX-P117-
Panasonic
Cost: £199+VAT
Telephone: 0344 853552

Getting across

Read on as Tony Walker gives you the complete CPC lowdown on BB operation.

So you want to run a Bulletin Board System on a CPC do you? Are you completely and utterly mad? Of course you're not! Well to run a BBS you need to get hold of certain things!

(1) A computer. (I find a CPC 6128 works quite well!) You will also find it an advantage to have a large capacity 2nd drive ie: a 3.5" or 5.25" 80 track B: Drive. Otherwise the BB that you want to run will have to be a very small one.

(2) A modem. Preferably a Quad Standard one with speeds of 300/300 1200/75 1200/1200 2400/2400 (v21, 23, 22, 22bis) The Amstrad SM2400 is a very good choice.

(3) A RS232 serial interface. (Note only a PACE or CIRKIT model is recommended.) Note that PACE made serial interfaces for Amstrad so an interface with Amstrad's name on it should also be okay. Please *note* however that the KDS and SPECTRE-COMMS interfaces do not use the correct port addresses that Amstrad specify, and therefore will not work with any of the following host programs.

(4) And last but not least, you need a host program! At the moment there are three main BB systems available for the CPC range of computers, maybe there are more than three, but these are the ones that I am familiar with! They are as follows:

(1) ROS (Remote Operating System).
(2) Bulldog.
(3) XRAS.

Of the above three only ROS and Bulldog are worth bothering about. XRAS is a vert basic BB system and has more than it's fair share of bugs! There also used to be a BB system called *'Northern Lights'* but I have not heard anything of this software for quite some time, so I assume that it has fallen by the wayside, so to speak.

Both the above systems run under Digital Research's deeply wonderful CP/M operating system! As far as I know, all the above programs need CP/M Plus (also known as 3.1), so that put's 464 owners at a disadvantage – sorry! Of course you can still run a BB on a 464 – but you will need a disc drive, CP/M+, a 64K or bigger memory expansion and a 6128 Chip. Of all these, the 6128 Chip will be the most difficult to get hold of.

Now for a more detailed description of the systems. In this article I will concentrate on ROS, as it is the system that I am most familiar with. ROS is a Public Domain program that comes from the USA. It was originally written by Steve Fox for the CP/M 2.2 systems then running in the States and was altered for use with the PCW series of machines by Ron Touw in the UK around about 1986. Since then it has been drastically redesigned and modified by Chris Smith, Bob Garbutt and Bob Wilson among others, who have turned it into a really good Bulletin Board system for the CPC and PCW range of computers.

ROS is a Compiled turbo Pascal program (Turbo Pascal is (c) Borland International), as such it is a very flexible program, and you can make a very individual bulletin board system from it – the Pascal source code is just a series of Ascii files (called INClude files because they all have the file ext. of .INC) which you can load into your word processor, and alter them.

But beware – although Turbo Pascal is a very easy program to use – unless you have got your source code exactly right – you are in for some very interesting debugging sessions! I have spent plenty of time hunting bugs in ROS, and it is not something I would recommend! It is generally at this point that you start to wonder if running a BB is a sane thing to do!

So therefore I would suggest that you try and learn a bit about Pascal before doing any major modifications to ROS – I am not going to go into a discourse on programming in Pascal – I don't know enough about it to start to tell you how to program in it! Having said all this you don't need to alter the default source files if you don't want to – it's not compulsory!

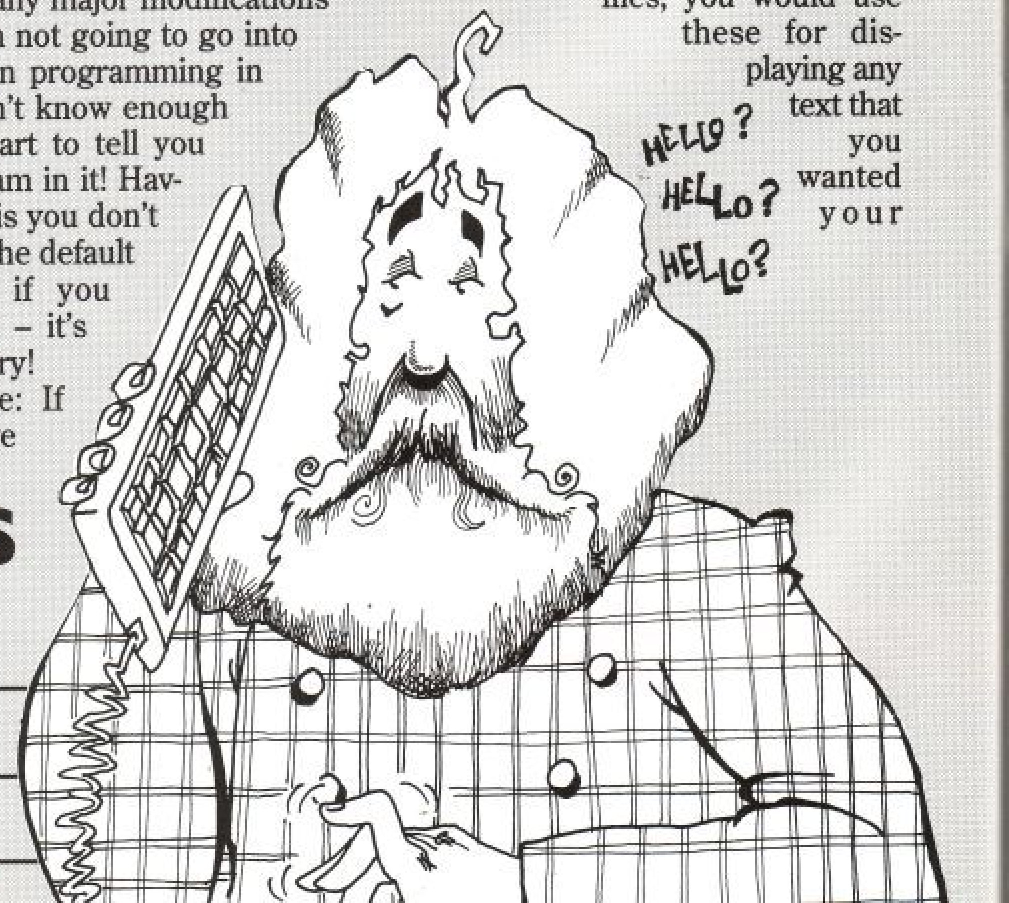
Please note: If you don't have a copy of Turbo Pascal or if you don't want to be bothered altering the source code, then it is possible to get a ready compiled version of ROS all ready to run, all you need to do is to contact a Sysop who is running a ROS board and ask him or her if they will compile a copy of ROS for you, most of them will be happy to do so.

They will need a few details about your BB. For instance what name you are going to call your board and what modem you are going to use with the BB, with this information they will be able to send you a copy of ROS all ready to run! All you will need to do is just alter the Menu and Text files etc to suit your BBS.

The source code for the version of ROS that I used on the CPC (v4.5) is about 300K long, so you will need to have a 3.5" 792K B: Drive to be able to compile it; as you will also need Turbo Pascal and its support files on the same disc, which adds about another 100K to the total file-size. But when it is compiled it comes down to 132K of files, these consist of the following: ROS.COM 44K, ROS.000 2K, ROS.001 2K, ROS.002 2K, ROS.003 2K, ROS.004 16K, ROS.005 62K, ROS.006 2K. These are the main files that you need to run the BBS.

Now apart from the COM files mentioned above, you will also need a lot of other files, which will contain amongst others your BBS Menu files; Text files that tell your users about various things. Here is a list of them along with a short description of their function.

ARTICLEA.TXT – ARTICLEZ.TXT
These are the Article files (also known as Bulletins) and are just normal text files, you would use these for displaying any text that you wanted your



users to see – for instance: information about the BB etc.

BULL1200.TXT & BULL300.TXT These are the Bulletin (Article) menus which go with the ARTICLEA – ATRICLEZ files – as you can see there are two versions for 300 baud callers and 12/75 and above callers. The reason for this is because when you logon at 300BPS (Bits Per Second) long menus scroll past V. E. R. Y. slowly! And so the XXXX300.TXT files only have short menus, and the XXXX1200.TXT files have the normal full menus.

FILE1200.TXT & FILE300.TXT These are the File area menus – again there are two versions.

FILEHELP.TXT This is the online Help file for the Files menu.

INFO0.TXT – INFO9.TXT These are INFOrmation files. In each of the menus (Main, Message and File) there are numerical commands (0,1,2 Main – 3,4,5 Message – 6,7,8,9 File), you can set these commands to display any text file you wish, the only restriction being that the files have to be called INFO0.TXT to INFO9.TXT, and that they have to be pure Ascii text. ie, no control codes etc.

LOG.ROS This is the Logfile that ROS writes for the Sysop, it contains information about what every caller has done on the board and it can make for very interesting reading!

LOGF1200.TXT & LOGF300.TXT These are the LOGOFF Screens for the BB, as before there are two versions for different baud rates.

LOGN1200.TXT & LOGN300.TXT These are the LOGON Screens for the BB. These screens should tell the caller all the things that he/she needs to know about the settings they require to be able to logon okay. So therefore you should state the maximum and minimum baud rates and protocol that your modem supports along with the times that the BB is online. You can of course put a lot more information in – but if you make it too big, you will find that users get annoyed!

MAIN1200.TXT & MAIN300.TXT These are the MAIN Menu Screens for the BBS, this is the first menu screen that users see and is the gateway to the rest of the BB. Below is an example of my MAIN1200.TXT file.

You can of course set up your menus in any way you want – but they must contain all of the above commands in the above example menu. They can be changed – but you would have to do it before ROS is compiled.

MAINHELP.TXT This is the online Help file for the Main Menu (Called by the '# ' command).

MEDT1200.TXT & MEDT300.TXT These are the MESSAGE EDITING menus and are displayed after you have entered a message to someone. They contain the commands that you can use in the Message editor.

MESS1200.TXT & MESS300.TXT These are the MESSAGE menus. They contain all the commands that you need to Read and Enter messages.

MESSHELP.TXT The online Help file for the Message menu.

MESSAGE.ROS This is the File that contains all the Messages on the BB, it is a Random Access Binary file, so you can't just load it into your word processor and edit it! It is a good idea not to let this file get too large, (use the PURGE Command from the Sysop menu) because if you do, you will find yourself running out of disc space and when that happens – ROS will stop working! This usually happens in the middle of the night – when you are not there to take care of it!

NEWIN.ROS This is a list of Files that have been uploaded to the BB, but which have not been moved to the correct file area by you.

NEWUSER.TXT This is a Text file that is displayed to New Users to the system, this file should contain a potted history of the BB! Along with some information about the Software/Hardware that the BB runs on.

OTHERSTS.TXT This is a list of other BB Systems for users to call – of course none of the other boards on the list are as good as YOUR BB!

ROS.DEF This file contains all the information that the BB requires for its start-up procedure, it also contains stuff like who was the last caller etc.

SECTION.ROS This is one of the most important files in the whole ROS set up! This file contains all the Data that ROS needs to setup the BB, among the stuff in it are your File and Message areas, the access levels you want them to have and where on your system they are to be situated.

MAIN MENU

(!) Yell for Sysop!	(#) Detailed Help	(?) Display this Menu
(F) Filing Menu	(G) Goodbye/Logoff	(M) Message Menu
(U) Utility Menu	(A) Article Menu	(B) Bulletin
(I) Info-New-Users	(1) SoapBox	(3) Lower Phone Bills!
(0) All about ROS		

STATS.ROS This file contains information about the BB setup. This file like MESSAGE.ROS is a Binary file and so can't be edited in a word processor like most of the files in ROS.

SUMMARY.ROS This is the summary of all the Messages on the BB – it contains details of users last read pointers etc. This file along with MESSAGE.ROS can be quite large in size and therefore they should both be purged every day to get rid of deleted messages.

SYSBUL12.TXT & SYSBUL3.TXT These are Text files containing any News or Gossip that you want your users to see, the files are displayed after the LOGN1200.TXT & LOGN300.TXT files, so the user can't miss seeing them!

SYSMGS.ROS This contains text that is used at logon, if the users name can't be found by the CPC from the USERDAT.ROS file.

SYSP1200 & SYSP300.TXT These are the Sysop Menus, this is where all the power is! Here you can be God! You can edit users, delete users, turn them into frogs and do various other things with them!

UEDRT1200.TXT & UEDT300.TXT This is where your users can alter all the defaults that the BB gave them when they first logged on. They can change to the Expert menu where only a very short menu is displayed, they can also change their password, telephone number and address details etc.

USERDAT.ROS This file contains all the information that the BB needs to identify users at logon, it also contains their names and addresses.

USERIDX.ROS This is the userlist of the BB. This file along with USERDAT.ROS is checked at logon against the details that the user enters at the logon prompt.

UTIL1200.TXT & UTIL 300.TXT These are the Utility Menus, here a user can find out various bits of information about the BB. Like the current time and date and the version of ROS in use, they can also get a list of all the users on the BB etc.

UTILHELP.TXT This is the online Help for the Utility menu.

The above text covers a lot of running details of ROS, if you would like more information about running a Bulletin Board on your CPC, please feel free to call my BBS – PRESTON ROS – on 0772 652212 – 24 Hours.

There is also a newer version of ROS just about to be released. I hope to be able to bring you more details about this in a later issue.

'The Sysop'

BITS

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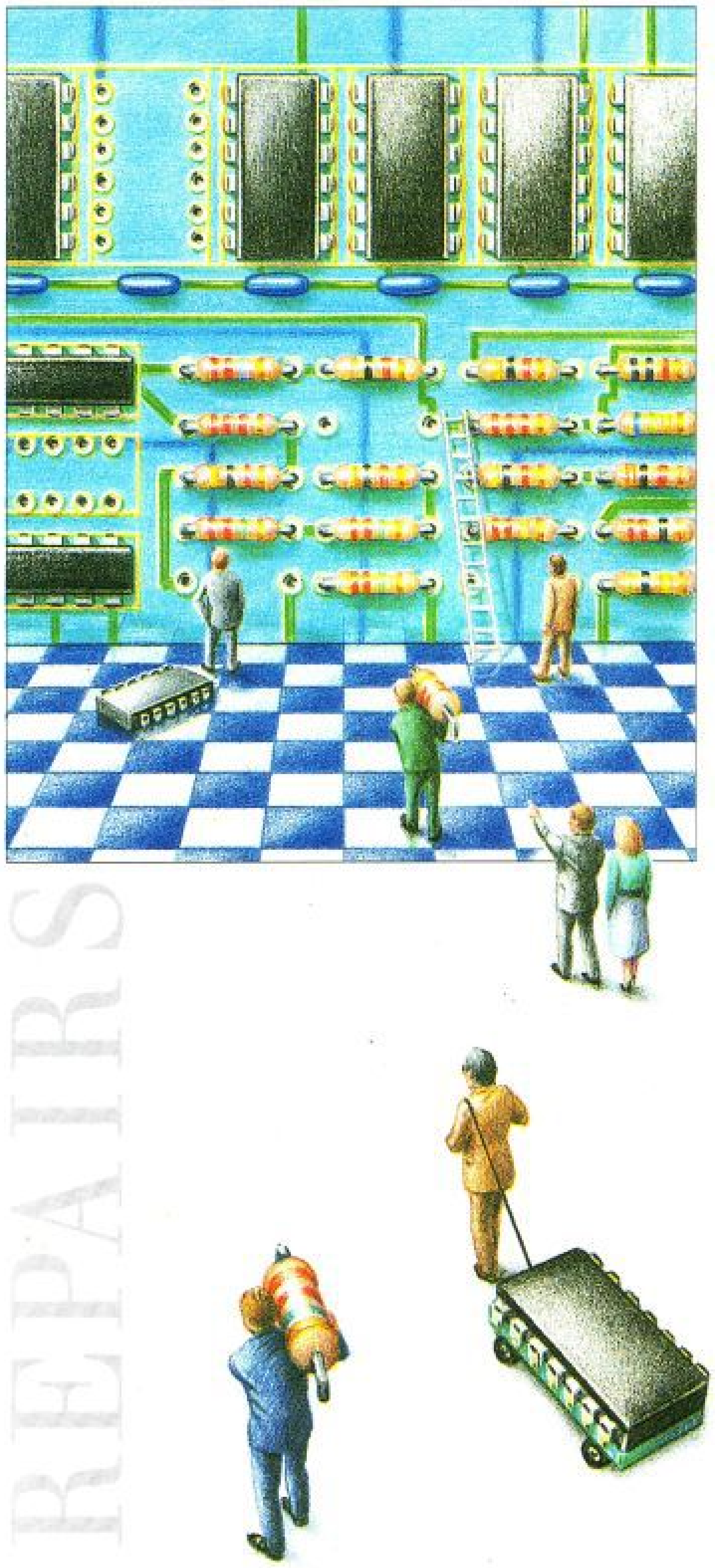
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